

T H E C L A S S I C A L A R A B I C V E R B I N F L E C T I O N

A W P - G R A M M A R

WITH AN INTRODUCTORY PHONEMIC INVESTIGATION

A Thesis Submitted for the Degree of
Doctor of Philosophy

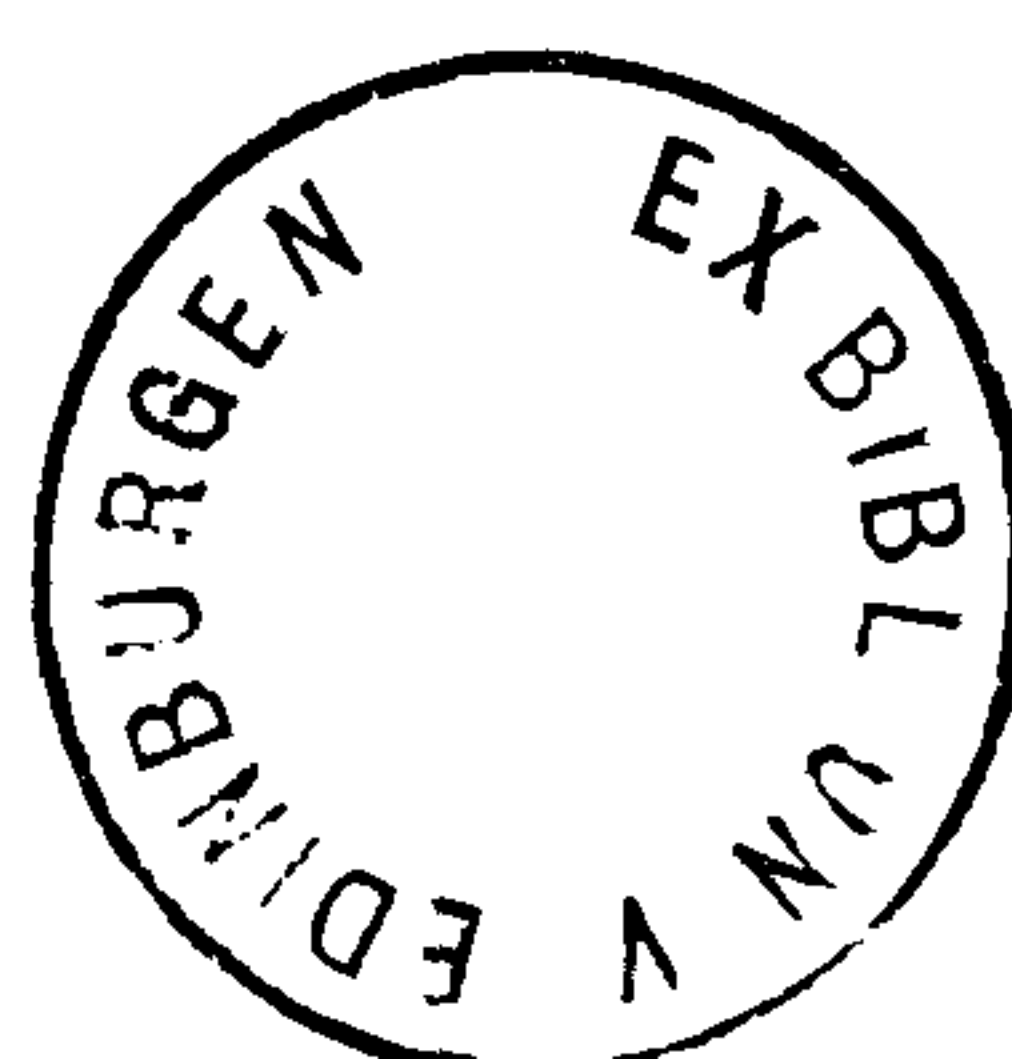
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by

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"....., and of"
knowledge ye have
been vouchsafed
but little."

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
".....وَمَا أُوتِيتُمْ مِنَ الْعِلْمِ
إِلَّا قَلِيلًا ،، قرآن کریم

The Glorious Qurʾān S. XVII:85

"...، but say, 'O my Lord!'"
advance me in knowledge'."

قرآن کریم

The glorious Qurʾān S. XX:114

To My Parents

T A B L E O F C O N T E N T S

Dedication	iii
List of Tables and Figures	viii
Abstract	x
Transcription, Abbreviations and Notational Symbols	xii
Preface	xvii
Chapter	
I INTRODUCTION AND BACKGROUND ASSUMPTIONS	2
I.1 The Thesis Constructional Features	4
I.2 Grammatical Systems and Linguistic Universals	8
I.3 Arabic Vernacular Diversities	14
I.4 The 'Classical Arabic' Concept	20
I.5 The Traditional Arabic Grammar	23
I.6 Foreign Grammatical Influence	27
II PHONEMIC INVESTIGATION	33
2.0 Introduction	34
2.1 The Consonantal System	
2.1.1 Classification	39
2.1.2 Majhūr/Mahmūs (Voiced/Voiceless)	39
2.1.3 The Emphatic (Valarized) Consonants	53
2.1.4 The Emphatic /l/ and /ḍ/	63
2.1.5 Ḥurūf al-ḏalāqah (Liquids)	75
2.1.6 The non-emphatic Sibilants	78
2.1.7 The Palatal Stop 'jīm'	83
2.1.8 The Uvular/Pharyngeal Fricatives	85
2.1.9 Secondary Consonants	88
2.2 The Vowel System	92
2.2.1 Classification	92
2.2.2 Vowel Divergences	100
2.2.3 Diphthongs	107

III	TERMINOLOGICAL DISTINCTIONS	111
	3.0 Introduction	112
	3.1 Syntax, Morphology vs Naḥw, Şarf	114
	3.1.1 Syntax vs Morphology	114
	3.1.2 Naḥw vs Taşrīf	120
	3.1.3 Correlations between Taşrīf, Istiqāq and Naḥw	134
	3.1.4 Conclusions	136
	3.2 Morphological Concepts.	138
	3.2.1 The Morpheme	138
	3.2.2. Root, Base (stem) vs Māddah, Binyah	148
	3.2.3 Stem vs Stem-Formative	150
	3.2.4 Word, Lexeme, Kalimah	152
IV	MODELS OF MORPHOLOGICAL ANALYSIS	160
	4.0 Introduction	161
	4.1 Features of the Main Morphological Models	165
	4.1.1 Word and Paradigm	166
	4.1.2 Item and Process	170
	4.1.3 Item and Arrangement	175
	4.1.4 WP as the Appropriate Choice	179
	4.2 The Word and Paradigm Model	185
	4.2.1 Basic Terms and Relations	187
	4.2.2 Structure of the Morphological Rule-System	190
	4.2.3 General Remarks	191
	4.2.4 The Derivational Sub-Component	191
	4.2.5 Form and Interpretation of the Derivational Rules	194
	4.2.6 The List of Operations	196
	4.2.7 Procedure of Interpretation	199
	4.2.8 Ordering of the Derivational Rules	203
	4.2.9 Distinctive Features of the System	208
	4.2.10 Adaptation of the System to CA	211
V	THE VERBAL SYSTEM	214
	5.0 Introduction	215
	5.1 General Characteristics	219
	5.1.1 The Verb Structure (an outline)	219

5.1.2	The Verbal Base Form	224
5.1.3	Empty Morphs and Base Form	229
5.1.4	The Verbal Root Formation	231
5.1.4.1	The Triconsonantal Roots	232
	Class (A)	236
	(i) Formal Observation	237
	(ii) Semantical Connotation	240
	(a) Semantical Contrasts	241
	(b) Semantical Correspondence	243
	(c) Semantical Restrictions	243
	(d) Remarks	244
	Class (B)	245
	Class (C)	248
	Class (D)	252
5.1.4.2	The Quadriconsonantal Roots	254
5.1.4.3	Types of Verbal Roots	257
	(i) Strong verbs	258
	(ii) Weak verbs (Defective)	259
5.1.5	The Transitive/Intransitive Dichotomy	267
5.2	The Verbal Morphosyntactic Categories	273
5.2.0	Introduction	273
5.2.1	Aspect/Tense Intersection	275
	5.2.1.1 Tense/Time	276
	5.2.1.2 Aspect/Tense	283
	5.2.1.3 A Postulate	296
	5.2.1.4 Perfective/Imperfective	300
5.2.2	Voice	301
5.2.3	Mood	304
5.2.4	The Personal Pronouns	307
	5.2.4.1 Free Forms	308
	5.2.4.2 Bound Forms	310
	5.2.4.3 General Observations	317
VI	THE GRAMMATICAL RULES (APPLICATION)	323
6.0	Introduction	324
6.1	Guiding Notes	327
	6.1.1 General Remarks	328
	6.1.2 Rule-Order	331
	6.1.3 Optional Rules	332
	6.1.4 Rule-Generalization	333
	6.1.5 Pronominal Affixes	334
	6.1.6 Base-Form Utility	335
	6.1.7 Weak-Verb Rules	336
	6.1.8 Gemination Rules	338

6.2	Application	340
6.2.1	The Stem-Rules	340
6.2.1.1	The Primary Stems (S^1)	343
6.2.1.2	The Secondary Stems (S^2)	345
6.2.1.3	The Tertiary Stems (S^3)	349
6.2.1.4	The Intermediate Stems (I)	354
6.2.1.5	The Transitory Stems (T)	358
6.2.1.6	The Transitory Stems (T')	363
6.2.2	The V-Rules	367
6.2.2.1	The Active and Passive Perfectives	367
6.2.2.2	The Passive Imperfectives	377
6.2.2.3	Moods of the Imperfectives	383
6.2.2.4	The Imperatives and Energetic Imperatives	415
	EXEMPLARY DEMONSTRATION OF THE DERIVATIONAL SYSTEM (OPERATIVE EXAMPLES)	427
	SUMMARY AND CONCLUSIONS	436
	BIBLIOGRAPHY	453

L I S T O F T A B L E S A N D F I G U R E S

TABLES :

2.A	The Consonants of CA	38
2.B	The Arabic Vowel System	92
3.A	Basic Terms of the Verbal Formation	152
5.A	Primary and Augmented Patterns of the Triliteral Verb	235
5.B	Perfective/Imperfective Patterns of the Triliteral Verb	237
5.C	Types and Patterns of the Triliteral Verbs	239
5.D	The Semantical Contrasts in Patterns	242
5.E	The Semantical Correspondence in Patterns	243
5.F	The Semantical Restrictions in Patterns	243
5.G	Patterns of the Four Final-Weak Verbs	263
5.H	The Arabic/English Constructions for Future-Expressions	282
5.I	Negation-Constructions	285
5.J	Free Forms of Personal Pronouns	308
5.K	The Set of Pronominal Prefixes and Suffixes	311
5.L	Matrix of Feminine Affixes	314
5.M	The Personal Pronoun System of CA	316

FIGURES :

2.A	Cardinal and Arabic Vowels	100
4.A	Morphological Process (Passive)	181
4.B	Morphological Process (Participle)	181
4.C	Morphological Process (Imperfective)	183
4.D	Procedure of Interpretation	200

FIGURES :

4.E	Verbal Procedural Demonstration	201
4.F	Nominal Procedural Demonstration	202
4.G	The Procedural Sub-Section	206
4.H	Exponence-relations in WP	209
5.A	The Alteration Stages of the Final-Weak Verb	264
5.B	The Alternative Stages for Three of the Final-Weak Verbs	265
5.C	The Alternative Stages for the fourth Final-Weak Verb	266
5.D	Time Unidimensional Line	296
5.E	Event Bidirectional Line	297
5.F	Prime Tenses	297
5.G	Synchrony of Time, Tense and Aspect	298
5.H	Retrocipative Tenses	299
5.I	Multidimensional Construction of Time, Tense, Aspect	299
5.J	Total Field Structure of the Imperfective Affixes	315

A B S T R A C T

This work presents a new grammar of the Classical Arabic Verb Inflection, carried out within the system of the WP morphological theory (the Word and Paradigm model of analysis as formalized by Professor P.H. Matthews). It is thus basically an application of this structural theory, rather than an assessment of its merits. Yet a general evaluation of characteristics of this theory, compared with two other interrelated systems, is presented with particular attention to the concept of 'adequacy' in relation to Arabic grammar.

The thesis consists of six chapters, the first of which represents an elaborated introduction meant to define the implicit questionable points that the title may raise. This is followed by a chapter on phonemic investigation, restricted to the problematic areas where the scholarly dispute over a specific number of Arabic phonemes has been building up since the Classical era. The terminological distinctions between the basic traditional terms of Arabic grammar and their presumed equivalents in modern linguistics is discussed in Chapter III as a prelude to the major body of the work.

Chapter IV reviews, first, the three relevant linguistic models of analysis in relation to the morphology of Classical Arabic,

which is taken here beyond the restrictive study of the individual language to the domain of the general linguistic theory; and, second, it presents a comprehensive summary of WP: its basic terms, rule-system and evaluational procedure, followed by the reasons that made it the ideal choice for the present purpose. Chapter V, which serves as a background to the application in Chapter VI, represents the core of the discussions devoted to the Classical Arabic verbal system. It comprises all the explanations that are possibly needed for the making and understanding of the grammatical rules, and which find no room in the final chapter without interrupting the flow of the rule-divisions. The final chapter is merely an application of the WP model to the inflectional system of the Classical Arabic verb. It consists of the verbal grammatical rules, preceded by a minimized group of the required guiding notes, and followed by an exemplary demonstration of the derivational system. The thesis is ended with a Summary and Conclusions that survey the work in general and briefly record its findings.

In addition to the original views and postulations distributed over almost all the chapters of this work, and apart from the empirical value regarding the theory adopted, the present grammar represents on the one hand a further step in the evolutionary course of the Classical Arabic grammar, and on the other it provides a new link between this classical grammar and the continual evolution of the linguistic theory.

T R A N S C R I P T I O N , A B B R E V I A T I O N S
A N D N O T A T I O N A L S Y M B O L S

TRANSCRIPTION

The orthographic transcription, which adheres to the rules of standard spelling for the given language, is in the case of ordinary Arabic script not very much different from the phonemic type which represents each phoneme by one symbol irrespective of the phonetic details. As we are here dealing with CA as a recorded language (not with one of the spoken dialects), the phonemic transcription which usually uses obliques (e.g. /k/, /katab/) will satisfy our purpose. Thus, the reading of the Arabic words in the present work should follow the pronunciation of the various Arabic phonemes as specified in the phonological charts of Chapter II. The phonological charts are based on the notational conventions of IPA. The few symbols added to, and adjustments made in the IPA transcription symbols, for the sake of typing convenience, are actually versions of conventions used by some Arabists, and are limited to the following symbols (Cf. Tables 2.A and 2.B):

ð	velarized interdental, voiced fricative
ṭ	" dental, voiceless stop
ḍ	" " , voiced "

l̥	velarized dental, lateral
ʃ	" alveolar, voiceless fricative
ʒ	the IPA [ʒ]
j	palatal, voiced stop
ġ	uvular, " fricative
x	" , voiceless "
ħ	the IPA [ħ]

Apart from this, vowel prolongation is indicated by a bar on the letter (viz. ā, ē, ī, ū), and the doubling of a consonant expresses gemination. The phonemic segment /al-/ 'the' is always realized in this form, whether or not the final /l/ is assimilated to a following initial consonant, e.g. al-kitāb, al-Šams.

ABBREVIATIONS AND NOTATIONAL SYMBOLS

a	active voice
c	consonant
CA	classical Arabic
con	contract (unify the two identical consonants in a geminate segment)
cur	curtail (shorten a prolonged vowel)
d	dual
Dis Mor	discontinuous morpheme (the lexeme vowels)
eg	energicus (verbal form)
ep	energetic imperative (verbal form)
exp	expand (relax the geminate identicals)*
f	feminine (as opposed to masculine form)
I	(1) intermediate stem, (2) any index symbol
If	imperfective

* i.e. insert between two identical consonants
a vowel identical to the vowel preceding the ^{gemination} ~~consonant~~
see p. 338

In	indicative
Ip	imperative
js	jussive
> §	jussive or subjunctive <i>Lex replace with lexically determined vowel (see guiding notes)</i>
p	passive voice
pf	perfective
pl	plural
pro	prolong (lengthen a short vowel)
R	Root
S ¹ , S ² , S ³	primary, secondary and tertiary stems respectively
sg	singular
sj	subjunctive
T	transitory stem (active)
T'	transitory stem (passive)
V	verbal form
v	vowel
w	grammatical word
1	1st person
2	2nd "
3	3rd "
2	1st or 2nd person pronominal suffixes <i>(This symbol is wrongly typed thus 2 on pp. 399-405)</i>
3	3rd person pronominal suffix
()	parentheses: or (alternative item)
{ }	brace brackets: limitation (of class) component
[]	square brackets: (1) reference component (2) phonetic transcription
/ /	obliques: phonemic transcription
I+	prefix
+I	suffix
-	delete (in verbal examples, hyphen (-) distinguishes affixes relative to the stem)
⊥	infix (insertion)
<	originates in
>	becomes
=	equals sign: is equal (equivalent) to

\pm : replace with
 \rightarrow rewrite
, comma: for separating operations from one another
' inverted comma: to indicate unity of a single operation
 \emptyset zero morpheme

The Classical Arabic Verb Inflection
A WP-Grammar
With an Introductory
Phonemic Investigation

P R E F A C E

Hopefully, the fact that this work is subject - as a Ph.D. thesis - to the examiners' evaluation, would allow for the immediately following statement, which modesty may otherwise forbid.

Recompense for the unseen efforts that have led to the findings recorded in this work, is only attainable in terms of the scholarly appreciation of the experts.

To illustrate this statement, I may choose four less obvious matters that had to be faced before proceeding with the work relative to each.

1. The fact that I realised at a late stage that the subject I had in mind for the thesis has been done in London University forced me to exert similar efforts with greater emphasis on the various areas of linguistics - central or peripheral - other than that with which I first concerned myself. This was demanding in every respect. Yet it was, in my case, the only way forward to a position on which an alternative choice could be scientifically determined.

2. Having made the choice, and gone a long way with the

preliminary investigations, a problem of a different nature arose. A reasonable knowledge of the grammatical concepts of Latin had to be first attained before operating in accordance with the choice. And in this respect bordering topics forced themselves upon attention to enhance the situation. "One cannot, of course, discuss the inflections of Latin without referring to the various syntactic and semantic categories which they represent." This unseen exertion was unavoidable. It was of a fundamental role in understanding the demonstration of the morphological theory - according to which the work was to be carried out - as presented by Professor P.H. Matthews.

3 The next problem to arise was that of the appropriate 'solution' that could settle the question of rule-devising, according to the adopted model of analysis. This problem has been - in our case - enhanced by the complexity of the Arabic verbal system (e.g. the great number of discrete patterns or forms, with the diverse realisations of the verbal types: geminate, hamzated, weak, etc.), being combined with the great number of exceptions. "One inflecting language might be said to be 'even more of the inflecting type' than another." The appropriate solution that has been applied in this work, was the sixth of a series of solutions that all had to be tested to breaking point, before the appropriate one was reached. One of those solutions was so convincing that I went a long way with it, for a long time, in the course of analyses, before an alternative solution had to be reconsidered. Thus the plausibility of the sixth solution is due, not only to its conforming to the essential condition of combining the complete coverage of data with the 'formal economy', but to its singularity within the limits of the time available.

4 The vital stage of analysing the data according to the adopted model (i.e. the redistribution of the data according to both the solution and the rule-system) was, of course, the major task of which only the results of a very tiring and very long process are visibly recorded in this work. My prior specialization in classical Arabic was of course of great help in this respect. Nevertheless, the reconstruction of a complete work (a major section of a language), from a totally different angle of view, can pose basic problematic questions, no less than those of the original construction.

The first two points recall to the attention, the question: Why should we bother at all? Why not the traditional Arabic grammar? To answer this question, I take into consideration both the facts that the old is new in its own time, and that the available facilities form part of the assessment for judging merits. This being so, then my sympathy to traditional Arabic grammar is beyond doubt. Passing any explicit or implicit judgement in any form (including the formal alteration of the traditional rules), that may appear to contradict this attitude, should under no circumstances be taken as implying any intention of belittlement that may undermine the most impressive excellence of the early Arab grammarians' linguistic achievement, which I highly value.

The only intention is to introduce a new system of analysis in terms of modern linguistics, which - in addition to its empirical value regarding the theory concerned - adds a new insight into the grammar of classical Arabic, and hopefully represents a further step

in its evolutionary course. If an advantage of the present grammar over the traditional one has to be pointed out, then, with the third point above in mind, one should compare in terms of 'reliability of the output', the 'formal economy' and 'absolute adequacy' in the former, to the possible 'redundancy' and 'memory-bounded adequacy' in the latter. Furthermore, if the 'restricted Universal theory' to which the adopted model relates, subscribes in the end - as one would like to believe - to the theory of 'linguistic Universals' which treats all human languages as an integration of related units; then the present grammar should represent, one hopes, a new link between the grammar of classical Arabic and the continual evolution of the general linguistic theory. This major contribution of the present work is - one wishes to claim - only one of the original views and postulations that are displayed over almost all the chapters.

It is hoped that the above identifies the reason, the scope, and the purpose of the present study. Further questions of relevance that may occur are left to be covered in the introductory chapter.

It remains to acknowledge with gratitude the assistance of all those at Edinburgh University and its rich and sumptuously organised central library, who have helped in one academic way or another, during the undertaking of this study. In particular, I should like to express my sincere gratitude to my supervisor Dr. M.V. McDonald, for his instructive discussions, stimulus views and comments, and constantly encouraging support. I am indebted to Dr. K. Brown for making useful discussions and valuable comments of which I am most appreciative. I am grateful to Professor W.M. Watt, through whose arrangement I was

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Edinburgh University
1980

A.M. Al-Karouri

I

I N T R O D U C T I O N A N D B A C K G R O U N D

A S S U M P T I O N S

I

I N T R O D U C T I O N A N D

B A C K G R O U N D A S S U M P T I O N S

Historically speaking, the Arabic language seems to have always been a language held with the highest honour and the deepest affection by its native speakers. Since the Jahiliyya days, the poets were highly regarded among the Arabs for their mastery of the word power, and were hence thought of as having magical or supernatural abilities. The advent of Islam, accompanied by the study and exegesis of the Qurʾān, intensified this attitude and thus gave the Arabic linguistic studies a major role in the Arabic scholarship. The result was the production of a great number of written grammars dealing with the various grammatical aspects.

The principal aim of the present work is to reconstruct, within the domain of inflectional morphology, the traditional system of those early grammars, in order to produce - according to a well established theory of modern linguistics - a new grammar of classical Arabic, which is economical, pedagogically straightforward, and of a reliable evaluational procedure of which I mean the flow chart of interpretation (produced by Matthews) which always leads to the restrictively appropriate rule, and thus guarantees the correct output.

The Arabic verbal system is the area of application.

In order to familiarize ourselves with the data sources, the method of analysis, and the major objectives of this work, this introductory chapter is intended to give a general outline of the major constructional features of this work, followed by a tolerably brief identification of the principal questions reflected in its title. These questions may be sub-divided into: a) the concept of linguistic universals, discussed in general terms with the intention of accounting for our adoption of a model of analysis that, in a restricted sense, relates to this universal concept, which approaches all human languages in a frame of unitary nature, b) the diversification of Arabic vernaculars (the source of classical and contemporary standard Arabic), c) the concept of classical Arabic, d) the traditional grammar of classical Arabic (a historical outlook), e) and the foreign grammatical influence, on the early stages of Arabic grammar.

Brevity and conciseness in all these matters are inevitable in such an introduction, which is mainly intended to shed light on these issues as matters of general reference, rather than to analyse them as matters of primary concern.

This work presents a new grammar of 'the Classical Arabic Verb Inflection' carried out within the confinements of the morphological theory¹ WP (Word and Paradigm) in its formal demonstration by Professor P.H. Matthews. It is thus basically an application of this theory of structural analysis, rather than an assessment of its merits. Nevertheless, a general evaluation of its characteristics, compared to two other interrelated disciplinary systems, is presented with regard to the concept of adequacy in the case of the Arabic language grammar in particular. The problem of 'accounting for the data' is avoidable in our case, by virtue of both the theory and the language of application, i.e. Classical Arabic (henceforth CA). The theory is held to be applicable to living languages of the Latin type (inflected languages), which could determine its higher adequacy.² The language with which we are concerned (CA) is - for strong historical reasons discussed in this chapter - very well reported, to an extent that justifies a complete reliance on its recorded grammatical data. That is to say, the application is more or less a redistribution of existing grammatical data, in terms of a new and more adequate system of structural analysis.

¹ Theory is to be understood here as defined by Matthews: "any system which incorporates the three components (model of description, rule system, and evaluation procedure)". Matthews, P.H. Inflectional Morphology, Cambridge, the University Press, 1972, p.19.

² Ibid., p.21.

This introductory chapter, which counts as Chapter I, had to be developed from merely an introduction that presents the major structural characteristics of the thesis, into an independent chapter, in order to cover all the questions that find no place in the body of the thesis, and yet make a fundamental contribution to the overall picture of this work.

Starting with the two facts, that the grammatical statements of the linguistic structures are essentially of two-fold application: a determination of the structural elements and a distributional statement about the elements relative to each other, and that the morphological operations are carried out on phonologically established elements; it might be desirable, or might even more be a matter of fundamental role, to begin with a phonemic investigation which may help in designating - by way of determining the questionable phonemic elements in terms of quality or quantity - the distributional relations therein, before proceeding with the morphological analyses. In other words, the morphological statements about the elements and the specification of their arrangements, is expected to be defined on the basis of the distributional relations of the previous stock of phonological elements¹. There is also the obvious purposes of transcription and the usefulness of a general phonemic reference, which in addition to the preceding point, represent the assumptions behind our introduction on 'phonemic investigation'. The fact that we are dealing with recorded material reduced the scope of this investigation

¹ Cf. Harris, Zellig S. Structural Linguistics, Phoenix Books, University of Chicago Press, 9th ed. 1974, pp.6-9.

to the problematic areas, where the scholarly dispute has been building up through time, over the quality or quantity of particularized Arabic phonemes.

For the Arabist in particular, another chapter on the basic terminology used in this work might prove to be of primary significance. It is often felt that the correspondence between the traditional terminology of Arabic grammar and the equivalent terminology in modern linguistics is not always quite evident. Some of the traditional basic terms of Arabic may need some approximation or redefinition in order to fit in with modern concepts in linguistics. Or at least they may need to be rendered clear of the ambiguity and misconceptions that are bound to emerge in the realm of a speculative comparison. Therefore, a chapter on the basic terminology had to prelude the major body of the work.

The major body of the work consists of the three final distinct chapters. The first of these (Chapter IV) assumes a broader attitude in the consideration of language, with CA taken as the individual focus area of assessment. That is to say, this chapter discusses - in its first section - the three relevant linguistic models in relation to the morphology of CA. The evaluation of the three models is oriented towards analytic adequacy regarding the inflection of CA in general terms. The statements are made independent of the linguistic classes (Nominals, verbals, etc.), except for the expository paradigms that are presented as they come, according to the situation or the point at issue. The overall idea here is that CA is taken beyond the restrictive domain of the individual language, to the

universal domain of the general linguistic theory, with the ultimate goal of looking for the ideal and most adequate frame of reference for the morphological analysis of CA.

The second section of this chapter presents a reasonably comprehensive summary of the chosen theory (Model of Approach): its basic terms, rule-system, and evaluational procedure. The painstaking efforts exerted in the task of producing this summary - and for that matter, the preceding section as well - were partly due to the fact that, in addition to the constructional complexity of the theory, the languages chosen by Professor Matthews for the purpose of demonstration were Latin (and Greek) of which I had to learn, from scratch, the basic grammatical concepts, before attempting to understand the theory itself. Afterwards, the task of presenting Arabic in this frame-reference, with the adjustments and restrictions required for the accommodation, was no less exhausting than that of the summary. But that was all inevitable, if the chapter on application was ever to have seen light.

The second (Chapter V) represents the core of the discussions devoted in this work to the CA verbal system. Its basic function is to serve as a background to the final Chapter VI on application. The rule-system in the final chapter leaves no room for explanatory comments to interrupt the flow of the rule-divisions. Therefore, all the lengthy explanations that may need to be resorted to for the purpose of making or understanding the various rules had to be placed in this preceding chapter. This chapter is, of course, an independent entity if considered in terms of (hopefully) the original views that it comprises, but the demonstrative function is intended to

be its prime role. For this reason, it should be possible, from a presentation point of view, for Chapters IV and V to switch position with one another.

Finally, the third is Chapter VI which is devoted for the application of the Rule-system (demonstrated in Chapter IV) to the verbal system of CA. It consists of the verbal grammatical rules, preceded by a group of guiding notes restricted to the minimum required for the clarity of the working system. The grammatical rules, as they appear in their final form, are the result of a long and tedious process of analyses and comparisons, based on a solution that was too demanding to work out in an idealized form. This is demonstrable by the validity and comprehensiveness of the grammatical rules, whether measured by the evaluational procedure or by the attached exemplification, i.e. the grammatical rules are self-reliant. A number of examples is appended to the end of the grammatical rules to demonstrate how the system practically operates.

1.2 GRAMMATICAL SYSTEMS AND LINGUISTIC UNIVERSALS:

It is an equally striking phenomenon, to the specialist (the professional linguist) as well as to the layman, that certain features, such as words, morphemes, etc. appear at the same level in every language with which he acquaints himself; whereas others, such as possessor, the person and case categories, etc. do not. The former features are professionally interpreted as due to "universal factors", i.e. "they are inherent in the nature of human speech",¹

¹ Bloomfield, Leonard, Language, Unwin University Books, London, reprint 1969, p.297.

while the latter features "are not universal, but still so widespread that better knowledge will doubtless some day connect them with universal characteristics of mankind."¹

This question of universal concepts in linguistics goes back to the early days of the Greek and Latin grammarians who seem to have held the opinion that all human languages do have linguistic structures in common, which could be analysed in terms of a universal grammar.² 'Universalism' is "a collective term for those approaches to linguistics which assume that languages are closely linked to the logical system of a supreme philosophical system."³ This supreme system is identifiable in terms of the language universals which are those structural features of languages, that are innately specified as part of the genetic endowment of human beings. "If the same genetically transmitted structural framework underlies all languages, then languages can differ from one another only with respect to the peripheral structural features that the child learns through experience."⁴ Languages must therefore be alike in more respects, despite the linguistic diversity in their surface peculiarities which usually attract attention concealing the underlying uniformity.

¹ Loc. cit.

² cf. Bach, Emmon. An Introduction to Transformational Grammar, Holt, Rinehart and Winston, Inc., New York 1966, pp.176f.

³ Hartmann, R.R.K. and Stork, F.C. Dictionary of Language and Linguistics, Applied Science Publishers Ltd., London 1973, p.246.

⁴ Langacker, Ronald W. Language And Its Structure: Some Fundamental Linguistic Concepts, Harcourt, Brace & World, Inc., 1968, p.240.

This is actually one of two rival views in this respect, which are believed to be complementary to one another rather than in complete conflict, insofar as the question 'how much of the linguistic structure is learned?' is concerned. The Rationalists claim that "The blueprints for any possible linguistic system are provided as part of the innate neural equipment with which every human child is born. The role of learning is thus minimal.... only the peripheral structural details that make languages superficially different from one another are acquired on the basis of environmental influence.¹" In favour of this position are the arguments: (1) Despite the differences in linguistic training, language acquisition is the same by all children of ^{going}variant degrees of exposure to speech, (2) The fact that language is peculiar to human beings, (3) The relative perfection of language acquisition, regardless of general intelligence, insofar as the significant structural features are concerned, (4) The capability of the child to master at a pre-intellectual age the remarkable complexity and abstractness of languages.

The rival view is that of the Empiricists who claim that language is learned 'entirely through experience', with no inborn capacity to acquire it. This claim is refutable on the basis of the simple fact that in addition to the primitive ability of learning, the human organism is finite, which makes it imperative for the Empiricists to admit that language organisation (and consequently language acquisition) must be partly determined by the finite innate properties of the human organism. On the other hand, the claim of

¹ Ibid., pp.235f.

the Rationalists that language is 'innately specified almost in its entirety', is not in fact an absolute denial of the role of learning in the language acquisition. What is meant to be genetically inherited is the capacity for language in general, not the specific details of the given language. The inbuilt system is the organisational and structural properties which are shared by all languages. "Using the inborn, skeletal linguistic system as a base, the child must proceed to discover those structural details that translate this base into the fully specified system that is used around him.¹" In other words, the role of linguistic experience is to activate, rather than to shape, the linguistic competence with which we are born.

Interest in the Universal features of all human languages has recently increased and been promoted by the adherents of transformational-generative grammar, who would claim, for instance, that "what appears to be a peculiarity of English is actually explicable in terms of a general and deep empirical assumption about the nature of language,²" or that "the deep structures of sentences in different languages are identical; that is I am subscribing to the idea of a universal set of base rules³." And still, some of the modern linguists and anthropologists would oppose the doctrine of the traditional universal grammar, in terms of the linguistic diversity

¹ Ibid., p.236.

² Chomsky, Noam. Aspects of the Theory of Syntax, The M.T.T. Press, Cambridge, Massachusetts, 8th printing 1972, pp.7f. see also pp.54f.

³ Bach, Emmon. 'Nouns and Noun Phrases', in Universals in Linguistic Theory, (ed. Bach and Harris - Holt, Rinehart and Winston, Inc., London 1972) p.91, and cf. the discussion on the possibility of a Universal base, by Fillmore, in this volume, pp.1f.

in the surface structures,¹ ignoring the fact that "it would simply not be possible to write grammars that account for the sentences of a language²" without taking into consideration many features of universal grammar, and that "only descriptions concerned with deep structure will have serious import for proposals concerning linguistic universals."³ "The findings of modern linguistics are thus not inconsistent with the hypotheses of universal grammars."⁴

However what concerns us in this discussion is the impact of the Rationalist view on the question of universalism or what is called language universals. If the Rationalists' arguments,⁵ are seen to be strong enough to allow for adopting the conclusion that "linguistic systems differ somewhat in structure, but they vary only within the confines of this common framework,"⁶ then the application of such a linguistic system or approach to the grammar of CA should rouse no scepticism or objection, even if it was basically designed for a given language or a certain group of languages, (i.e. restricted universal theory)⁷, so far as it works properly, giving the required

¹ cf. Lyons, John. Introduction to Theoretical Linguistics, Cambridge University Press, Reprint 1969, pp.134, 147f, 472f.

² Kiparsky, Paul. 'Linguistic Universals and Linguistic Change', in Universals in Linguistic Theory, p.171.

³ Chomsky, op.cit., pp.209f.

⁴ Ibid, p.118.

⁵ See Versteegh, C.H.M. Greek Elements in Arabic Linguistic Thinking, Leiden, Brill 1977, pp.90ff. for the basic thesis of the Empiricist doctrine, its differences with the Rationalist dogma, and its influence on grammar including Arabic.

⁶ Langacker, op.cit., p.242.

⁷ cf. Matthews, op.cit., pp.147-165.

proper output and achieving descriptive adequacy in accordance with the dual limits imposed by the theory concerned regarding the formal conditions on grammar and the evaluational procedure for the given system.¹

On these grounds, and with the understanding that "any inconsistency of procedure is likely to create confusion in a descriptive statement of morphology²," we have adopted the grammatical framework or 'model of approach' applied to CA in the present work, hoping that some contribution may be made on the basis of the statement that "a universal theory is empirical, hence subject to revision as more languages are investigated."³ And in this respect, we may be, more or less, keeping track of the evolutionary development in grammatical systematization which was initiated by the early Arab grammarians, who seem to have been in general agreement with the preceding rationalistic arguments, when they allowed themselves the benefit of foreign influence in the making of their own grammars, as we shall see below.

¹ cf. Chomsky, op.cit., pp.41, 209.

² Bloomfield, op. cit., p.209.

³ Back^h, An Introduction to Transformational Grammar, p.126.

Most of the works produced on the Arabic language in recent times have been devoted to vernaculars rather than to the standard or classical Arabic. This is due to a number of considerations that may together be interpreted as the source of attraction to the linguists' attention. Over the various communicatory systems to which it can be compared, language has the advantage of being essentially a human characteristic, and as such it has to be examined in an objective 'scientific way', without any prejudice or preconceptions that may assign privilege to one language or the other. That being so, the spoken dialects, or 'vernaculars', will then have the merit of representing the everyday language and thus lending themselves more easily to scientific research. This is one of the possible assumptions behind the dialectal attraction. Another possible assumption is what seems to be a conventional belief among some linguists, that 'linguistics proper' is 'comparative linguistics'. This belief goes back to an early stage of linguistic studies, when 'linguistic comparison' was used in a wider sense involving other disciplines of the human activities. According to De Saussure¹

"Linguistics is only a part of the general science of semiology (a science that studies the life of signs within society); the laws discovered by semiology will be applicable to linguistics, and the latter will circumscribe a well defined area

¹ Ferdinand De Saussure, Course in General Linguistics, (ed. by C.B.A. Sechaye, trans. by W. Baskin), William Collins Sons and Co. Ltd., Glasgow 1959, p.16.

within the mass of anthropological facts..... the task of the linguist is to find out what makes language a special system within the mass semiological data..... If I have succeeded in assigning linguistics a place among the sciences, it is because I have related it to semiology."

Within this frame of thinking, regarding the study of language as a model for semiology, there is the widespread view that the scientific study of language is identical with 'comparative linguistics'.

"Comparative grammar came to be regarded as the linguistic study which is scientific par excellence; it was thus contrasted with other fields, both of historical and of linguistic research, in which the same degree of precision had not been reached.¹"

This assumption will have the same bearing as the first one to the merit of dialects or vernaculars, which is the feasibility of investigating their data through the assistance of living informants. Other possible assumptions would be of the same nature and would relate to these two in one way or the other.

However, it is not surprising that this general attitude should have its impact upon Arabic dialectology of modern times. In addition, a particular significance is attributed to the dialectal

¹ Lepschy, Guilio C. A Survey of Structural Linguistics, Faber and Faber, London 1972, p.21.

study of Arabic vernaculars, because of the fact that "the spoken language, despite its impurities and its apparent decay, can preserve truly ancient and transitional forms¹." A number of the verbal forms, for instance, have been subjected to various thematic or connotational alterations in the usage of regional localities. Some of these localities, in today's Arabic, are believed to be preserving forms of pure uncorrupted Syriac origins. "Such linguistic phenomena have history and that history can be discovered only by comparison with the sister languages²."

For the early Arab grammarians, collection of dialectal samples was no more than a scholarly hobby. Therefore they cannot be expected to fulfil the requirements of modern dialectology by, for instance, transcribing all the dialectal accents for comparison. Their engagement in collecting these samples was mainly to serve their primary cause, which is the construction of the grammar of the Arabic koine. Thus, unlike modern dialectologists, they had preconceptions about what they were looking for, which is basically a form of grammar previously constituted by adjustments and interferences of those ancient dialects. They were mostly looking for luġāt or variant forms of utterances which might help in accounting for expressions that are incompatible with their standard Arabic patterns. Such expressions are then identified as šāḏḏ 'curiosity', min tadāxul al-luġāt 'dialectal interference', ḍarūrah

¹ Macdonald, John. 'The Arabic Derived Verb Themes: A Study in Form and Meaning', Islamic Quarterly, 7(1963) 96-116, p.98.

² loc. cit.

'poetic license' or like terms that were obtainable only through the reasonable concern they gave to those dialects.

Regarding the earliest linguistic forms of these Arabic dialects, the Nemara tombstone (dated 328AD) and a few other similar inscriptions of the 5th-6th centuries represent the only surviving records. Apart from that, other dialectal manifestations are merely scattered remarks by the late Muslim philologists about a number of dialects that were current in Arabia round about the end of the 6th century, and roughly classified into eastern and western groups. None of these dialects is completely identifiable with the koine or the common language that was used for poetry and other elevated styles during the course of the 6th century, and which was first written down in the 8th-9th century. Nevertheless, the dialectal influence at this stage seems to appear in two divergent general representations: the main features of the poetic corpus appear to be characteristic of the eastern group; whereas those of Qurʾān (revealed early in the 7th century) reflect the pronunciation of the western dialect at Mecca, with certain features of the eastern dialects being imposed by the late scholars of lower Iraq. Other informal kind of documents that reflect some dialectal divergences are the letters and contracts related to the early years of Islam.¹

At any rate, the ancient dialects of the Peninsula have kept their independent forms until the end of the 7th century, when

¹ cf. Beeston, A.F.L. The Arabic Language Today, Hutchison & Co., (Publishers) Ltd., London 1970, p.13.

the dialectal situation started to become blurred, due mainly to the dispersal of the Arab settlers over the vast stretch of territories conquered by Muslims. This resulted in the emergence of modern vernaculars with only isolated features relative to their old distinctions. But "no one modern vernacular can be safely asserted to have developed out of any one ancient dialect of the peninsula."¹ This dialectal image is perhaps the starting point that marks the dialectal evolution which ended up with the present situation of the vernacular varieties used throughout the Arabic-speaking world.²

The fact that the old stages of the Arabic language were collected mostly during the 8th and 9th centuries, and by native grammarians whose main concern was to set up a standardised type of Arabic, biased to socially prestigious dialectal areas of certain segments of the population, is a possible source of disturbance for the strict linguist when confronted with classical Arabic as the sole representative of old Arabic. That is to say "In thereby using classical Arabic evidence for comparative purposes, we may be making false generalisations by assuming situations for the entire Arabian realm that in fact might have been found only in a more limited environment."³ It is a fact that, at least since al-Xalīl's days,

¹ Ibid., p.14.

² Cf. Gray, Louis H. Introduction to Semitic Comparative Linguistics, Columbia, University Press, 1934, pp.5f.

³ Corriente, F. 'From Old Arabic to Classical Arabic - Arabic through the Pre-Islamic Koine: Some Notes on the Native Grammarians' sources, attitudes and goals'. Journal of Semitic Studies, 21(1976) 62-98, p.62.

the Arab grammarians have had the conscious goal of standardising the 'correct' Arabic "at the expense of equally legitimate, but somehow less regarded forms¹." The contemporary Bedouin forms were tolerable features only because they were closer to the language of the Qurʾān, while most Ḥaḍarī 'urban' features were totally rejected. In other words, although those grammarians may have found it justifiable to recommend the usage of the central core of Ancient Arabic, as koineized in the pre-Islamic poetry and the Qurʾān, there is a possible distortion of the entire dialectal picture by their keen tendency to sanction, for the sake of standardisation, specific koineized forms at the cost of other non-koineized variants which are equally valid if allowed consideration.

However, such an unfavourable assessment of the dialectal investigations made by the early Arab grammarians, could also be favourably interpreted so far as classical Arabic and its existing grammar are concerned. That is to say, the biased attitude and the special concern given by those early grammarians to their data acquisition, should only make their recorded linguistic data (for classical Arabic) as reliable as any contemporary scientific recording of a living language. This status of the classical Arabic data, combined with other facts such as that classical Arabic is still the elevated mode of literary writing, that it is the storage safe for all the precious linguistic treasures, and that, for scientific research, it is the fundamental source and central axis for any linguistic study of a comparative nature, all these facts in addition

¹ Ibid., p.64.

to the general purpose of linguistic science, should at least, place classical Arabic on a par with the contemporary dialects, so far as linguistic research is concerned.

1.4 THE 'CLASSICAL ARABIC' CONCEPT:

Apart from the above mentioned inscriptions (the Nemara tombstone and the 5th-6th century inscriptions), the earliest surviving representation of classical Arabic (henceforth CA) in its written manifestation, is undoubtedly the Qurʾān and the poetic corpus of the sixth century. The occasional designation of the term CA to the written language of formal communication in the Arabic-speaking world today, is in contradiction with the fact that this language is not always manifested, grammatically or otherwise, in the same form as that of the Qurʾānic language. Therefore, it would probably be better to keep the distinction between the two terms: 'Classical Arabic' for the early language manifested in the Qurʾān and the ancient poetic corpus, and 'Standard Arabic' for the formal Arabic language of today.

From a linguistic point of view, the Qurʾānic text is of a higher value as having been written down earlier than the poetic corpus which was transmitted orally until its first documentation in the eighth-ninth century, a time at which the common language itself had already run through a significant evolution, due to a number of factors such as the use of Arabic by the non-Arab Muslims, of whom a good number has always been among the intellectual elite.

Comparable to the linguistic situation of the poetry is that of the Traditions (life and sayings of the prophet) which were, like the poetry, transmitted orally before they were subsequently written down. But the advantageous role of the religious factor in the question of the traditions cannot be ignored in this respect. Nonetheless, the fact that the Traditions are sometimes recorded in several different formal expressions for the same ultimate sense, is frequently considered as an indication that the content, rather than the verbal expression, was the concern of the prophet's contemporaries.¹ However, this consideration is of less bearing on the later stages, where the later scholars increased the linguistic value of these Traditions by laying more stress on verbal accuracy.

To sum up the main arguments regarding the definition of the CA concept, we should perhaps start with the two dominant views in this respect. That is, the one held by the European scholars in general which is that CA was to some extent a foreign idiom that needed to be acquired by most, if not all, of those who employed it for writing poetry; and the other view which is prevalent among Muslim scholars, for whom CA is identical with the spoken language of the Bedouins.² The opposition here is basically due to the conceptual confusion in the relation between CA and the ancient dialects. Most of the views about this relation are believed to be hypothetical and probably based on biased attitudes. CA is sometimes

¹ cf. Beeston, op. cit., p.14.

² cf. Rabin, Chaim. Ancient West-Arabian, Taylor's Foreign Press, London 1951, pp.17f.

defined as a standard collection of all the ancient dialects spoken in the main part of Arabia. In other views, it is sometimes identified with particular dialects such as those of the Maʿadd tribes or Qurayṣ; and sometimes with particular regions such as Najd or Yamama, etc.

These views are generally classified into three schools of thought, referring basically to the Qurʾān, but equally held with regard to literary Arabic in general.¹ One is that the literary idiom as used in the Qurʾān is a formation of different dialectal elements. The other is that it is identical with the dialect of one tribe or a group of tribes. And the third equates literary Arabic with Qurayṣ dialect. The third, which is the dominant view, attributes the linguistic superiority of Qurayṣ dialect to the frequent contacts of Meccans with the speakers of other dialects during pilgrimages and ʿukāḏ fairs, which is a matter of direct effect in the process of the language standardisation. Of all these views, a valid identification of CA is perhaps to equate it stylistically with the actual texts of the Qurʾān and early Arabic poetry, and grammatically with the works of Sibawayhi and his contemporary Arab grammarians.

However, a reproduction of the early CA has generally been achieved, during the following period which stretched into the eleventh century. That is, the marvellous product of the brilliant writers and poets of the Golden Age, which is considered the best

¹ Cf. Ibid, pp.18-24.

in Arabic literature. And to a great extent, it is also regarded - especially in its Bedouin division - as a reliable source of evidence for grammatical scientific investigations. This product of the Golden Age eventually became on its own a source of inspiration to a later literary renaissance, i.e. the Nahḍa movement in the middle of the nineteenth century. An archaizing tendency towards a proper reproduction of the CA features is unmistakably detectable in the achievements of the founders of this movement, and it is actually still influencing a not negligible number of contemporary poets and writers in the Arab world.

A major safeguard that enabled the CA features to exist, keeping their original identity through all these centuries, is undeniably the rules of the traditional Arabic grammar. How these grammatical rules were worked out, through historical stages of development, is another question.

1.5 THE TRADITIONAL ARABIC GRAMMAR:

The spread of the diverse tribal Arabs over a vast stretch of the conquered territories resulted in a continual intermingling - through various aspects of life including marriage in some cases - with the local populations. This was accompanied by a significantly rapid development in the koineized common language, which it was feared would eventually hamper the understanding of the Qurʾān and the prophetic traditions. It was thus "not surprising that general ignorance of the written language -

the language of Qurʾān and the pre-Islamic poetry - was so often lamented, and that there was a crying need for both dictionaries and grammars.¹"

Scholars of the eighth century were thus set to start their work on the sciences of Arabic grammar and lexicography, with the principal puritanical aim of protecting the Qurʾānic language in its 'correct' standard. This emphasises the fact that Arabic linguistic sciences (lexicography and grammatical teachings) were first motivated by a religious tendency, rather than by a pure scientific interest.²

"As a matter of fact, it is typical of almost every grammar to be used originally as a means to preserve ancient or sacred literature, for instance, the Homeric epic in Greece, the Vedas in India, the Sagas in Icelandic literature, and the confucian texts in China.³"

Grammar and lexicography - both of which are generally believed to have been initiated by the studies of Abu al-ʿaswad⁴ - proceeded side by side both in Basra and its later sister-city Kūfa,

¹ Haywood, John A. Arabic Lexicography: Its History and its Place in the General History of Lexicography, Brill, Leiden 1960, p.3.

² Cf. Semaan, Khalil I. Linguistics in the Middle Ages: Phonetic Studies in Early Islam, Brill, Leiden 1968, p.24.

³ Versteegh, op.cit., p.5.

⁴ Cf. Haywood, op.cit., p.17; Semaan, op.cit., pp.21f.

with their two functions being clearly defined. Lexicography (luġah 'philology') being concerned with the purity of words and expressions, whereas grammar (naħw) is concerned with the use of this material in connected speech and the rules governing such usage.¹

"In both these twin sciences, a major work of genius was produced towards the end of the eighth century of our era - alXalīl's 'Kitāb al-ʔayn' in lexicography, and Sibawayhi's 'Kitāb fi al-Naħw' in grammar."

The early generations of the Arab grammarians set out to study the language of the nomadic tribes - at the beginning of the eighth century AD - in particular as being more conservative than the sedentary Arabs, in preserving the formal concept of ʔiṣrāb, which reflects the most conservative phenomenon of CA. This attitude has created a very conservative scientific basis since the early Middle Ages, but on the other hand it is believed to have contributed to the divergences between CA and the everyday language by leaving out the real trends of the Arabic linguistic evolution. It was therefore considered "a powerful historical factor stimulating the emergence of the modern diglossia³" in Arabic. This is one of the critical views against the traditional Arabic grammar.

¹ Cf. Haywood, op.cit., p.16-18.

² Ibid., p.18.

³ Drozdík, Ladislav. 'Mediaeval Arabic Grammar and its Influence on Linguistic Theory and Terminology in Contemporary Arabic Science', Journal of Maltese Studies, 5(1968) 70-79, p.72.

Another aspect of this criticism is that, although the Bedouins were the only authority that could claim competence and theoretical or practical proficiency in the official language (CA), there are references which make the absolute reliability on their linguistic evidence susceptible to possible questioning. There is the reference to existing local vernaculars among the Bedouins, as well as to the old language being actually taught in the desert,¹ and to some pre-Islamic poets spending time in the correction and standardisation of their poems (e.g. ḥawliyyāt al-Nābiḡah). There is also evidence of linguistic differences among the Bedouins related to historical linguistic factors, e.g. Bedouins of the East are known to have used (mainly in poetry) verbal forms of ancient complicated structures found in Accadian, to a greater extent than the Bedouins of the West.²

Nevertheless, it is indeed only fair to say about these grammarians that they have taken the only reliable measures available at their time, that

"they did not start this process (Pre-Islamic koineization did), that furthermore their prescriptive role was largely one of application and homogenization of pre-existing models (old Arabic poetry, the Qurʾān, formal register Arabic of contemporary 'eloquent' Bedouins), and that in providing the necessary set of rules for the fixing of CA within the narrow but

¹ Cf. Corriente, op.cit., pp.68f.

² Cf. Macdonald, op.cit., p. 99; Cf. Corriente, op.cit., p.69.

unavoidable margin of allomorphic variation, they were conservative and exercised good judgement most of the time."

The principal aim of this grammar has always been to protect the constructional features of 'correct' Arabic, according to its classical conception. Nothing has changed, so far, regarding the aim or the formal construction of this grammar.

"The grammar taught in the schools of the Arab world today is virtually identical with the grammatical system devised by the eighth-century schools, and throughout the period from then to now this grammar has been the ideal aimed at by the educated classes for literary expression²."

The aim of the present work is to conform in its morphological data, to this traditional grammar, and reconstruct it according to a well established system of modern linguistic theory.

1.6 FOREIGN GRAMMATICAL INFLUENCE:

The fact that the Arab grammarians were generally reluctant to admit foreign influence in matters of relevance to their language, does not seem to have hindered them from adopting non-Arab grammatical elements that suit their own grammatical analysis. And indeed, one

¹ Corriente, op.cit., p.71, cf. Rabin, op.cit., pp.8f.

² Beeston, op.cit., p.14.

may say from the start "However much the early Arab philologists may have owed to Greek and Indian notions, nothing can belittle the use they made of such notions¹."

As is the case with the history of grammar in the European languages that took into account the work of ancient Greeks, Arabic grammar is believed to have had relations with the ancient grammatical sciences. This is reflected in the efficiency with which Kitāb-Sībawayhi started, i.e. the ^htricotomic division of the language components. The early grammarians - of whom Sībawayhi himself is of a Persian origin - are believed to have been influenced by the Greek method of grammatical analysis which was already established in Persia through the direct cultural contacts with Greece, as well as via Syria whose language (Syriac) was an additional language used by the Persian scribes.² Sources of Indian origin (Sanskrit writings) are also thought to have influenced the Arab grammarians through Persia.

The fact that the Arab acquaintance with Greek logic came at a later stage is sometimes raised as a historical argument against the equation of the three parts of speech (with which Kitāb-Sībawayhi starts) with the Aristotelian logical divisions. But this argument can be refuted on the ground that

¹ Haywood, op.cit., p.2; Cf. Marshall, David R. 'Some Discrepancies in the Reasoning of the Arab Grammarians', Journal of Maltese Studies, 4(1967) 69-78, p.71.

² See Marshall, op.cit., p.70.

"although the logical division became known to the Arabs at a later time, it could have influenced Arabic grammar through Greek grammatical theory, which often betrays the traces of logical influence.¹"

There is also the fact that some other Arab scholars, such as Fārābī, are quoted as having admitted borrowing from the Greek grammatical doctrine some grammatical terminology (translated) in order to manage the description of certain elements of speech.² The basic thesis here is that the early Arab grammarians seem to have generally allowed themselves the benefit of borrowing from - or maybe exchanging with - foreign grammatical sources. To discuss the quality and quantity of this borrowing and its historical spectrum is, of course, a matter beyond the limits of this brief introduction.

As for the present time, some of the over zealous traditionalists might still consider it an intrusive phenomenon to attempt to dress the features of the traditional grammar in a modern unfamiliar grammatical system, as it is only natural for the fields of language studies, that represent the preserved branches of the mediaeval Arab science, to yield quite a different picture when the indigenous notions and their terminology are confronted with those of modern European science.³ Nonetheless, even those traditionalists would have to acknowledge in the end, that what counts is the scientific approach which subscribes to the progress

¹ Versteegh, op.cit., p.39.

² Cf. Ibid,. p.51.

³ Cf. Drozdík, op.cit., p.70.

towards the linguistic ideal. If this happens to be achievable through the introduction of a modern analytic system, which could advantageously redistribute the existing material at an advanced level of the linguistic theory, then it should present no objections as long as it keeps the correct structural features of the given language. In our case, the outcome of the present work is only conceivable within this understanding, within the concept of language universals. Accordingly, it should be considered a further step in the development of the Arabic grammatical theory, rather than a complete departure from or parting with the traditional Arabic grammar.

It may not be out of place to refer briefly, under this question of foreign influence, to the advantage of comparative studies between Arabic and the other Semitic languages. It is a well established fact, now, that it is absolutely essential for the sake of developing a safe technique and successful methodology of teaching Arabic, to take into account the historical growth of Arabic forms by having regard to the similar type of growth in other Semitic languages.

"If we can study the Arabic verb side by side with the Accadian (Assyrian-Babylonian), Hebrew, Aramaic and Ethiopic, the Semitic languages which have left to us substantial bodies of literature, we are better able to distinguish and isolate those forms or themes that are peculiar to the growth of Arabic."¹

¹ Macdonald, op.cit., p.97.

A dominant view, in this respect, is that Arabic "is, in general and will probably remain, the best-known Semitic language."¹ But the idea that "classical Arabic is generally regarded as the most primitive Semitic speech extant,"² has come to be challenged in recent times.³ The challenge is mostly based on the historically established evidence regarding the continual contacts of CA with other languages (particularly the Semitic group),⁴ which invalidates the assumption that attributes complete isolation to CA as being kept deep inside Arabia, and away from any possible foreign influence on the borders. Nevertheless, any grain of truth in this assumption should only give CA the advantage of making the best of any linguistic comparison that takes Semitic languages into account.

For a relevant and simple example of how beneficial it is to view the grammatical structures of Arabic in the light of a comparison with other Semitic languages, one may refer to the long standing debate on the conventional concept of Aspect/Tense in Arabic, which is undoubtedly safer and more profitable to resolve in comparison with other Semitic languages, or even in terms of Hamito-Semitic

¹ Corriente, op.cit., p.62.

² Gray, op.cit., p.6.

³ See Moscati, Sabatino. An Introduction to the Comparative Grammar of the Semitic Languages, Otto G. Wiesbaden, Germany 1964, p.16.

⁴ Cf. Al-Karouri', Abdulmuneim M. Al-Daxīl fī al-luġah al-ʿarabiyyah: Dirāsah Tahlīliyyah fī dawʾ ʿilm al-luġah al-Ḥadīth, M.A. Thesis, University of Khartoum, 1970, pp.49-128.

comparisons.¹ It is generally accepted now "to say that the Arabic 'tense' system represents the result of a long process of evolution."²

Another example of a different type is incorporated in the statement that

"So far as Semitic is concerned however, it would seem that, apart from obvious deverbal nouns and denominative verbs, verbs and nouns developed from bases which were too general and vague in meaning to be either in reality."³

This idea should solve the problem of 'historicity' in the construction of grammatical words. That is through the support it implicitly gives to the abstract root as the base for any inflectional formation, without priority being given to any verbal or nominal form over the other. And as we shall see this notion has played a fundamental role in our present grammar, in addition to some structural and phonological comparisons between Arabic and Hebrew that, in our case, have settled some significant questions.

¹ Cf. Moscati, op.cit., pp.131-134.

² Ibid., p.133.

³ Gray, op.cit., p.35; cf. Ibid., p.72.

II

P H O N E M I C I N V E S T I G A T I O N

II

P H O N E M I C

I N V E S T I G A T I O N

2.0 INTRODUCTION

It is 'phonemics' rather than 'phonetics' that concerns us in this study, because the various kinds of indications that could help in assessing and reconstructing the phonology of classical Arabic, apart from the transmitted traditional pronunciation, which is itself in need of independent verification, cannot testify to the acoustical characteristics of the actual speech of such an ancient language. They can only bear general attestation in the comparison of the Arabic phonemes as minimally distinctive units of sounds relevant to meaning.

A reconstruction of the phonological system of classical Arabic can only be based on the kinds of indications proposed for the assessment of the pronunciation of the ancient Semitic languages,¹

¹ Moscati, Sabatino, et al., An Introduction to the Comparative Grammar of the Semitic Languages, ed. by S. Moscati, Otto Harrassowitz, Wiesbaden, 1964, pp.22-23.

in addition to the inherited recitation of Qurʾān which is highly valued as an evidence by modern Arab grammarians.¹ Such a basis - though not entirely adequate - could provide a good ground for conventional acceptance. Within this limitation, the work done on classical Arabic phonology may serve our purpose in the following phonological chart. Of course, we need not concern ourselves here with the originality of the classificatory system of the Arabic sounds: whether it was the invention of Sībawayhi or his professor al-ḫalīl, or was borrowed from an Indian origin.²

A minute discussion of the phonology of CA would be beyond the scope of this study. Nevertheless, reference made to some of the phonological characteristics that are peculiar to CA could be of practical value to the understanding of the variant phonemic formations of the word-structure, especially as the study of sounds has had an exceptionally significant effect on the subject of word-formation (ʿilm al-ṣarf) in the works of the Arab grammarians.

Thus, for convenience of reference in the following discussions, some phonological points peculiar to Arabic deserve a special mention and treatment. This is of particular significance

¹ Anṯ, Ibrāhīm. al-Aṣwāt al-luġawiyya, 3rd ed., Dār al-nahḍa al-ʿarabiyya, Cairo, 1961, pp.39-40.

² Voller, K. 'The System of Arabic Sounds as based upon Sībaweh and Ibn Yaīsh', Transactions of the Ninth International Congress of Orientalists, 11 (1893) 130-154, pp.133-35.

when we come to such cases as the phenomena of assimilation, dissimilation, etc.¹ (for which the Arab grammatical works have provided plentiful evidence) where the phonemic or morphophonemic changes need to be based or justifiable on a clearly distinct and recognized pronunciation.²

In short, what will be discussed in this section is by no means all that need be said about Arabic phonemes. All that will be pointed out is the conspicuous features that have been attached to particular Arabic sounds or groups of sounds as peculiarities.³ Otherwise, every secondary peculiarity concerning a sound (e.g. alteration for reasons like 'ʕajʕajah') will be left to be tackled later when it comes up in the course of discussion.

Some time ago I read or heard that scientific efforts are being made to recapture the ancient people's voices that are supposed to be hovering in the atmospheric waves all around us. Fictitious as it may sound, it is the only way that could provide us with a hundred per cent correct reconstruction of the original Arabic

¹ See: Magee, W.L., 'The Pronunciation of the prelingual Mutes in Classical Arabic', WORD, 6 (1950), 74-77, p.75; Corriente, F., 'From Old Arabic to Classical Arabic Through the Pre-Islamic Koine', Journal of Semitic Studies, 21 (1976), 62-98, pp.79-80.

² References to 'morphophonemics' in this chapter were made before I abandoned the idea of including properly the morphophonemics of CA in this study.

³ For a good reference and brief descriptions of the other groups of sounds and individual sounds, see: Vollers, op.cit., pp.152ff.

phonological system. Otherwise, the written form of Arabic is the only reliable witness for the purpose. But can the visual medium (writing) - especially the early Arabic script - correspond perfectly to the auditory medium (speech)? Haas¹ replies that "information given in either medium is not always translatable into the other". The information referred to here is particularly the suprasegmental prosodic features that he mentioned in his earlier statement:

"Those configurative ('suprasegmental') features - accentual patterns, rhythms and melodies - which organise the spoken utterance, cannot be satisfactorily paralleled by the sequence of discrete letter-segments."²

However, the whole point here is that the 'suprasegmentals' cannot be our concern in this study because, at best, they could only be reconstructed on hypothetical grounds. Hence, we have to confine ourselves to the segmental elements of the Arabic phonological system. Those are made up of consonants, semivowels and vowels.

¹ Haas, W., Phono-graphic Translation, Manchester University Press, 1970, p.84.
² Ibid., p.36.

2.1.0 THE CONSONANTAL SYSTEM

For expository purposes it might be more convenient to lay at the outset the phonological chart for the Arabic consonantal system as follows:

TABLE 2.A THE CONSONANTS OF CA

	Bilabial	Labiodental	Interdental	Velarized Interdental	Dental	Velarized Dental	Alveolar	Velarized Alveolar	Palato-Alveolar	Palatal	Velar	Uvular	Pharyngeal	Laryngeal
Stops:														
Voiceless					t	ṭ					ḳ	q		ʔ
Voiced	b				d	ḍ				j				
Fricatives:														
Voiceless		f	θ				s	ṣ	ṣ			χ	ħ	h
Voiced			ð	ḏ			z					ġ	ʕ	
Resonants:														
Trill							r							
Lateral					l	ḷ								
Nasal	m						n							
Approximants*	w									y				

* The existence of the term 'semivowel' is regarded as "a symptom of the conflict between the general phonetic and the phonological uses", (Abercrombie, D., Elements of general phonetics, (1967, p.79). The segments /w/ and /y/ are vowels if defined by phonetic form, but they are consonants considering their phonological function in such syllable patterns as the English /wet/ and /yet/. For this reason, the term 'Approximant' suggested by P. Ladefoged for the segments "with open approximation of the articulators, and central passage of the air-stream" (ibid., pp.50,67) is nowadays adopted by general phoneticians.

2.1.1 CLASSIFICATION

Although auditory principles may appear later to have been a major factor in the judgements of the Classical Arab grammarians on the production of Phonemes, it may be better to assume the general attitude here and base the phonemic classification of sounds or groups of sounds that we are going to consider on the physiological elements to which place and manner of articulation are related.

The 28 consonants recognized in CA (plain and emphatic /l/ were considered as one unit) are traditionally divisible according to quality into eighteen major divisions, and with some authorities they mount up to forty-four divisions. But according to the point of articulation, they are generally divisible into four consonantal sections: (1) Back consonants: laryngeals, pharyngeals, postvelars (uvulars), velars; (2) Liquids; (3) Front consonants: sibilants (palatals), dentals (emphatic and plain), interdental (emphatic and plain); (4) Labials.¹ Amongst these categories, the question of voicing is a common factor that deserves to be tackled first, before we start the respective discussions of the various selected consonants.

2.1.2 MAJHŪR/MAHMŪS (VOICED/VOICELESS)

The presupposition that the Arabic phonetic terms 'majhūr/mahmūs' are identical to the modern terms 'voiced/voiceless'

¹ Cf. Howell, Mortimer Stoper, A Grammar of the Classical Arabic Language, Allahabad (India), 1894, vol.iv:II, pp.1724-5.

is attributable to some of the old Arabic dictionaries whose definitions of these terms seem to be - in Lane's viewpoint¹ - incorrectly corresponding to 'vocal vs nonvocal, or voiced vs voiceless'. But others give definitions that are more agreeable with those of Sībawayhi and other Arab grammarians, viz. the mahmūsa sounds are so called "because the stress is made weak in the place where any one of them occurs until the breath has passed forth with it"; whereas the majhūra are so called "because there is a full stress in the place where any one of them occurs, and the breath is prevented from passing with it until the stress is ended with the passage of the voice".²

A contemporary support of this equation (i.e. majhūr/ mahmūs = voiced/voiceless) is represented in the admirable arguments presented by Anṯ's³ in support of his commitment to this belief. He based his argument firstly: on the fact that the conformity between Sībawayhi's terms and the modern ones is complete in respect of the dichotomic distribution of the Arabic sounds apart from two (/q/, /ṭ/) for which he gave his justification elsewhere,⁴ and secondly, on his

¹ Lane, E.W., Arabic-English Lexicon, London 1874, articles: majhūr and mahmūs; Cf. Gairdner, W.H.T., 'The Arab Phoneticians on the Consonants and Vowels', The Moslem World, 25 (1935) 242-57, p.246.

² Lane, op.cit., article Hamasa.

³ Anṯ's, op.cit., pp.88-93.

⁴ Anṯ's, op.cit., pp.51,67,107. On p.22 Anṯ's distributes the Arabic sounds as follows: the majhūra sounds are 13: b, j, d, ḏ, r, z, ḡ, ḥ, ʿ, ġ, l, m, n; the mahmūsa are 12: t, θ, ḥ, χ, S, Š, Š, ṭ, f, q, k, h. Whereas Sībawayhi specifies the majhūra as: ḏ, l, q, w, r, b, ḡ, ʿ, ḏ, ġ, z, ā, j, n, d, m, ṭ, y, ʿ; and the mahmūsa as: ḥ, θ, h, Š, χ, Š, f, S, k, t. - See: Howell, op.cit., vol.IV,II. pp.1725-6; Lane's Dictionary.

interpretation of the wording of Sībawayhi's definition of the term 'majhūr' in a way agreeable to the modern term 'voiced'. He explains the key words of that definition as: (a) 'al-ʔiḫfāʔ' which Sībawayhi referred to - without realizing its cause - as a sign of the 'majhūr' is actually 'the silencing' of the quivering of the vocal-cords. (b) 'Ṣawt al-ṣadr', (i.e. voice of the chest) which is to be heard with the majhūra sounds as Sībawayhi suggests is actually 'the voicing' in modern terms, although Sībawayhi could not detect its source properly. (c) 'ʔiṣbāʔ al-iʔtimād', that is the 'full stress' in the passage of the sound which - according to Sībawayhi - accompanies the majhūra sounds. Anīs suggests that it is equivalent to the modern term 'sonority' which refers to the stronger and clearer audibility that makes the 'voiced' more perceptible to the ear than the 'voiceless'. In this connection he refers to the difference of degree in the muscular sustainment that produces each of the 'voiced' and the 'voiceless' sounds. (d) 'manʔ al-naḥas' or 'confinement of the breath' which is here - according to Anīs's interpretation - referring to the narrowing of the air-stream passage by the tension of the cords that are brought closer at the production of the voiced (majhūra) sounds; and the converse is true with the voiceless (mahmūsa) ones. This is different from the complete obstruction of the air at the place of egression of the plosives (stops), which is the wrong way of understanding Sībawayhi's phrase 'manʔ al-naḥas'.

On the other hand, this equation (majhūr/mahmūs =

voiced/voiceless) is considered by some modern linguists as an erroneous interpretation,¹ or at least doubtful.² This is due to the facts that: (1) the explanation of 'majhūr' and 'mahmūs' by Sībawayhi when he first coined them, and then by his followers, was controversial.³ (2) "the reckoning of ṭ, q, and hamza (the glottal stop)⁴ among the majhūra, though they are assuredly unvoiced sounds to-day".⁵

As for the first point, the above-mentioned arguments of Anīs were meant to settle the question of controversy. For the second point, i.e. the inclusion of the three phonemes (/q/, /ṭ/, /ʔ/) in the voiced set, one explanation is that the Arab phoneticians - being unable to define these sounds in the throat and separate them from their following vowels - attributed the voice-element of the vowel that follow the consonant to the consonant itself.⁶ But this

¹ Jakobson, Roman, 'Mufaḫḫama, The 'Emphatic' Phonemes in Arabic', in Studies Presented to Joshua Whatmough on his Sixtieth Birthday, ed. by E. Pulgram, 'S-Gravenhage, 1957', p.113.

² Gairdner, 'The Arab Phoneticians on the consonants and vowels', p.243.

³ Anīs, op.cit., p.88; cf. Howell, op.cit., iv:II, p.1726.

⁴ Vollers (op.cit., p.137) adds 'alif' and 'ʕayn' to these three, but the fact that 'alif' is one of the vowels (elongated /a/) which are all voiced, and that 'ʕayn /ʕ/' is agreed upon as voiced by the contemporary native phoneticians of Arabic (e.g. Anīs, op.cit., p.22; Gammal-Eldin, Syntactic Study of Egyptian Col. Arabic, p.10) as well as the classical native grammarians, reduces the number to the three mentioned.

⁵ Gairdner, loc.cit.

⁶ Voller (1893), op.cit., p.137; cf. O'leary, De Lacy, Comparative Grammar of the Semitic Languages, London, 1923, pp.30-31.

sound suggestion could, of course, be countered with the question: Why did they not apply this to the rest of the consonants that they categorized as voiced 'majhūra' including the /ġ/ which is, like /q/ and /ʔ/, also produced in the throat? The alternative explanation is to consider each of the three sounds individually:

1. /q/: As for /q/, a number of propositions against the existence of the voiceless /q/ in CA were presented favouring the hypothesis that it was originally voiced:

(a) The supposition based on the evolutionary nature of the dialects and sounds. That is, in accordance with its definition by the classical Arab grammarians, this sound may have had in CA the same contemporary pronunciation which is widely used among the Sudanese and some of the southern tribes of Irāq (i.e. the voiced fricative /ġ/), e.g. /maġālah/ < maqālah/ 'article, essay'. Then it was later unvoiced.¹

(b) Another possibility is that it was originally pronounced as a voiced velar stop /g/. This pronunciation is still preserved among the Bedouins of Egypt, and in Jedda, Mecca, Nejd and Irāq.² Ibn sīnā (d.1037) mentions the existence of this voiced version in his days. Among the intermediate ḥurūf, he introduces

¹ Anṭ's, op.cit., pp.67-8; Cf. Gairdner, op.cit., 245.
² Anṭ's, loc.cit.; O'leary, op.cit., p.49.

"... the light /k/ which the Arabs (i.e. the Bedouins) nowadays use in place of /q/. It is produced where /k/ is formed except that its (point of articulation) is located further inward and the obstruction for it is weaker."¹

The difference stated here between the light /k/ (i.e. /g/) and /q/ seems to have had its social significance in the fourteenth century during the days of Ibn ḫaldūn in North Africa who defined this sound /g/ as the Bedouins' (with a more forward position) opposed to the back-guttural one (i.e. /q/) used in the towns and among the grammarians,² but "the Bedouin pronunciation has prestige and is used by many sedentaries in imitation of them."³

A very important point here, which is usually ignored, is that, according to the above statements, the evolution of /q/ to /g/ was in place as well as in manner, i.e. there was also a shift in the place of articulation. That is because /g/ is actually in a 'forward position' as it has been located by Ibn ḫaldūn only when compared to /q/, but if compared to /k/ it is neither forward nor inward, because the difference of /g/ vs /k/ is a difference of 'voicing'. /g/ is the voiced counterpart of /k/. But this voice-distinction seems to be one of the points that have escaped Ibn Sīnā, as he makes no mention of anything that could be interpreted as such.

¹ Ibn Sīnā, 'Risālah on the Points of Articulation of the speech-sounds', (translated from Medieval Arabic, by Khalīl I. seaman), Arthur Jeffery Memorial Monograph No.2, Ashraf Press, Lahore (Pakistan), 1963, p.51.
² Vollers, op.cit., p.138; Cf. Anṭ's, op.cit., p.68.
³ Blanc, Haim, Communal Dialects in Baghdad, Harvard University Press, Cambridge, Mass., 1964, p.29.

(c) The interpretation of 'majhūr/mahmūs' as identical to 'Lenis/Fortis' would result in /q/ and /ṭ/ being voiced consonants.

"Fortis, A consonant produced with strong muscular tension, as opposed to → Lenis which is a consonant produced with weak muscular tension in the articulatory organs. In English voiceless consonants are usually aspirated and fortis, whereas voiced consonants are usually unaspirated and lenis."¹

Applying these facts to /q/ and /ṭ/ would mean that we would have to discard the native philologists' classification, or as Vollers says² we are bound

"... to acknowledge that these sounds must be transliterated by d (or d²) and g², that is to say we must give to ṭ the power generally attributed to ḍ, and define q as a back-guttural g."

(d) Another point that links /q/ and /ṭ/ as originally voiced consonants is the fact that the Arab grammarians have classified them with the 'muqalqalah' (crackled) sounds, viz. /q, ṭ, b, j, d/ after which the Arabs always insert in speech a very short vowel (i.e. /^ə/) in order to guarantee that they are fully voiced. This is part of their general rule that 'all voiced plosives, should be fully voiced' to encounter the persisting dialectal inclination towards unvoicing the voiced consonants.³

¹ Hartmann and Stork, Dictionary of Language and Linguistics, London, 1973, p.88; Cf. Mario Pei, Glossary of Linguistic Terminology, New York and London, 1966, p.95.

² Vollers, op.cit., p.138; Cf. Jakobson, 'Mufaxxama', p.113.

³ Gairdner, W.H.T., The Phonetics of Arabic, Oxford University Press, 1925, pp.53,99; Vollers, op.cit., p.134; Anṯs, op.cit., pp.106-107.

Against these points, in addition to Anīs's arguments, are the facts that:

(a) The voiceless character of /q/ is confirmed in the proto-semitic consonants generally, including Arabic.¹

(b) The proposition that this /q/ was from the beginning a two-fold power phoneme: sometimes voiced, sometimes voiceless. A possibility supported by the existence of the same fact in other Semitic languages such as Hebrew and Aramaic.²

(c) In the previous quotation from Ibn Sīnā, the /g/ sound is said to have been used by the Bedouins "in place of /q/". This indicates that the voiced /q/ was the phoneme in the original usage.

(d) Also, Ibn ḫaldūn in the previous quotation stated that the voiced /q/ was in use "among the grammarians". And the grammarians are, of course, always expected to stick to the proper and original enunciation.

2. /ṭ/: This phoneme as it is pronounced in the contemporary standard Arabic - the present form of CA - is undoubtedly a velarized version of the plain voiceless stop /t/, i.e. 'velarization' is the only difference between /ṭ/ and /t/. But an analogy with arguments (c) and (d) in the preceding discussions about the phoneme /q/, would

¹ Moscati, The Comparative Grammar of the Semitic Languages, pp.37-38.
² Vollers, The System of Arabic Sounds, p.139.

suggest that /ṭ/ ^{was} ~~is~~ a voiced consonant. If we consider the early descriptions by Sībawayhi, Ibn Jinnī and their followers, we find that /ṭ/ is assigned the same place of articulation as /t/ and /d/;¹ and that is agreeable with the modern description.

Nevertheless, a confusion seems to relate here to one of Sībawayhi's statements quoted by Ibn Jinnī to the effect that:

"If it were not for /al-ḥiṭbāq/ 'covering' (i.e. velarization) then the /ṣ/, /ṭ/, /ḏ/ would have been /S/, /d/ and /ḏ/ respectively; while /ḏ/ would have disappeared from the language, as none else comes out from its place of egress."²

According to this statement "the voiced nature of /ṭ/ becomes certain", as Vollers³ suggests, because /ṭ/ is here presented as a similar parallel to the voiced /d/, except for 'covering'. This is not so in the contemporary description of these sounds, where /ḏ/ - not /ṭ/ - is the velarized version of /d/.

However, if we are to insist on the 'unvoiced' nature of /ṭ/, then the confusion here could be explained as due to the overlapping of /t/ and /d/ being both dentals, where the velarization as well as the voicing of one could be confused with the other. This is especially so when the acoustical reliance is without any

¹ Sībawayhi, al-Kitāb, Paris 1881, vol.2, p.453; Ibn Jinnī, Sirr

² Ṣinaʿat al-iʿrāb, Cairo (al-Ḥalabī) 1954, vol.1, p.53.

³ Ibn Jinnī, op.cit., pp.70-71, Cf. Howell, op.cit., IV:ii, p.1730.

³ Vollers, op.cit., p.150.

instrumental aid that could help in determining exactly the physiological elements of articulation involved, as was the case with the classical philologists.

3. /?/: This is the glottal stop which is called by the Arabs 'hamzah'. It is said to be of a high frequency in German, and

"Can also be heard in some English dialects, such as Cockney and Glaswegian, as a substitute for intervocalic t - the Glaswegian enunciation of 'water' illustrates it very well."¹

This sound cannot physically be voiced, because its production needs a complete closure followed by a sudden burst of the glottis. Hence, its inclusion among the 'majhūrah' cannot be interpreted in terms of voicedness.

Ibn Jinnī seems to have been mainly concerned with the distinction between the Arabic representation of the glottal stop (hamzah) and that of 'alif' /ā/ which happened to be represented by the same character in most cases. Otherwise he generally agrees with Sībawayhi in the identification of both.²

Both Sībawayhi and Ibn Jinnī have mentioned the 'hamzah' first, followed by the 'alif' in their description of the Arabic sounds.

¹ Beeston, A.F.L., The Arabic Language Today, Hutchinson and Co. (Publishers) Ltd., London, 1970, p.19.

² Sībawayhi, Kitab, 2, p.453; Ibn Jinnī, Sirr Ṣināʿat-al-iʿrāb, 1, pp.48,52.

It is believed that Sībawayhi probably mentioned the 'alif' after 'hamzah' not as another /ḥarf/ 'letter', but as a synonym and an explanation for the term 'hamz' which was at that time mainly known for its lexical meanings (spurring, pressing, urging, etc.). This assumption is supported by what appears to be the fact that Ibn Jinnī uses 'hamzah' as a name (term) for this sound, and 'alif' for the symbol representing it.¹ But unfortunately for this theory, Ibn Jinnī himself - in another place - mentions al-hamzah beside al-alif as two different sounds located in the throat, and in a third place he declares that although 'alif-al-madd', 'the alif of prolongation' in /kitāb/ 'book' looks like 'al-hamzah' in /Ahmad/ 'name', "they in fact differ in their place of articulation".²

It is hardly possible to decide on either side, on these grounds. This is probably why Gairdner has had to resort to acoustical reasoning in his discussion of the Arabs' definition of the terms 'majhūr/mahmūs' (including al-hamzah) so as to conclude that: "the term majhūra simply meant 'naturally audible', 'audibly pronounced', and included the voiced and some unvoiced consonants".³ Undoubtedly, this makes sense and falls in line with the fact that the Arab phoneticians were unaware of the existence and the role of the vocal cords, a matter that has impaired their phonetic description and led them to

¹ Anīs, op.cit., pp.84-5.

² Ibn Jinnī, op.cit., pp.8,46-9,52.

³ Gairdner, The Arab Phoneticians on the Consonants and Vowels, p.245.

misinterpret the 'voice' as air-vibration compressed by the activities of the articulatory organs.¹ They talk of /al-ṣawt/ 'sound, noise' as they describe /al-ṣiddah/ vs /al-raḫāwah/ 'stops' plosion vs 'fricatives' continuance, whereas they talk of /al-nafas/ 'the breath' as they describe /al-jahr/ vs /al-hams/. Sībawayhi's basic criterion for the distinction between /majhūr/ and /mahmūs/ is that: "repetition of the sound (phoneme) while the breath is running" is possible with the 'majhūr', impossible with the 'mahmūs'. To interpret this ambiguous rule in terms of 'voicing' would be rather confusing, especially when applied to, say, the voiced stops. Generally speaking, the fact that these phoneticians have based their descriptions merely on 'touch' or eye-observation, unassisted with any kind of technical aid, seems to have led to the imprecision in the determination of the points of articulation of a certain number of sounds, especially in cases of phonemes that are produced in adjacent areas such as pharyngeals and velars.² But this, of course, should in no way deny them the great value of the minute details they generally presented in their early descriptions of the articulation of the Arabic speech sounds.

However, all of this should account sufficiently for Gairdner's preferring to interpret the terms 'majhūr/mahmūs' on acoustical grounds, as it should do for Jakobson's³ statement that

¹ Cf. Semaan, Khalil I, Linguistics in the Middle Ages, Phonetic Studies in Early Islam, Leiden, Brill 1968, pp.59-60.

² Cf. ibid.

³ Mufaḫḫama, p.112. At any rate, some linguists would even suspect the accuracy of the terms (voiced/voiceless), "At some point however, certain linguists decided that a definition of the terms 'voiced' and 'voiceless' in strictly phonetic terms made them not completely
(cont.)

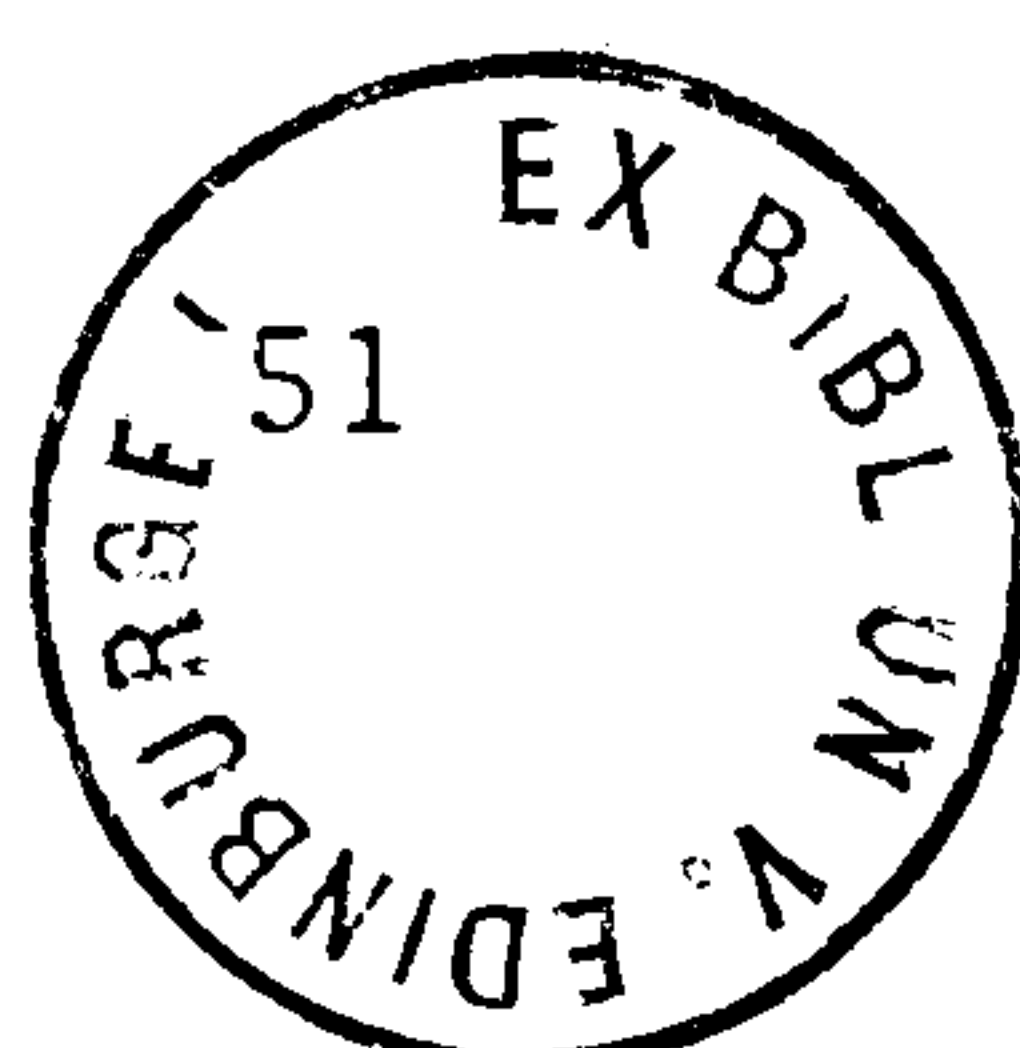
"this spiritus lenis, or hamza of the Arab grammarians, is adequately classed by them among the majhūra". Such a statement is more appropriate to the terms he opted to use (i.e. Lenis/Fortis) as equivalent to the Arabic (majhūr/mahmūs). But one feels here, that Jakobson has reversed the equation of these terms for no apparent reason, unless we assume that he classed the 'hamzah' as 'Lenis' solely to justify its inclusion by the Arab grammarians among the 'majhūrah' sounds, which are mostly 'voiced'. To demonstrate this, let us compare the definition of the modern terms to that of the old ones:

{ Lenis → weak tension, voiced (in English).
 { Fortis → strong tension, voiceless (in English).

{ Majhūr → /ʔuṣbiʔ al-iʔtimād fī mawḍiʔihi/
 'Tension is reinforced in its articulatory position'.
 { Mahmūs → /ʔuḍʔif al-iʔtimād fī mawḍiʔihi/
 'Tension is weakened in its articulatory position'.

The 'tension' in Sībawayhi's definition of majhūr/mahmūs is - like that in the definition of fortis/lenis - the tension of the articulatory organs, not of the vocal cords. This was simply because Sībawayhi knew nothing about the vocal cords. Now, in accordance with this the equivalent of 'majhūr' is 'fortis', which should mean that 'hamzah' is a 'voiceless' consonant, because 'fortis' usually relates (in English) to the 'voiceless' consonants. But this, on the other hand,

³ (continued from the previous page) accurate as descriptors, for we can read, in some accounts at least, that initial allophones of /b d g/ may be more or less voiceless. Such linguists have pretty well adopted the practice of labelling the two sets of stop phonemes 'lenis' and 'fortis', asserting that the two sets are more generally distinguished on the basis of differences in force of articulation than in voicing". [Leigh Lisker and Arthur S. Abramson, 'A Cross-Language study of voicing in Initial stops: Acoustical Measurements', WORD, 20 (1964) 384-422, p.420.



would be contradictory to the rest of the 'voiced' sounds classed by the Arabs as 'majhūrah'. That is presumably how Jakobson has been thinking about this problem, and henceforth decided to make 'Lenis' - instead of 'Fortis' - the equivalent of 'majhūr'.

Perhaps the whole question could be solved properly and in a better way if we just take Fortis/Lenis as equivalent to majhūr/mahmūs respectively. The first thing that attracts one's attention about the consonants classed by Sībawayhi as 'majhūrah', is that they are all fricatives, apart from the stops /t/ and /k/. Now, if the fricatives generally require less tension of the articulators than the stops do, then this is more in favour of the equation (mahmūs = Lenis). The fact that 'Lenis usually relates in English to the voiced consonants' should not impair this conclusion; firstly, because Arabic is what we are considering here, not English, secondly because even in English this is 'usual' but not a 'must', and thirdly and most importantly, there is the fact that Sībawayhi was not speaking of 'voicing' in his definition, but of the 'tension' of the articulator', and this is what should concern us in the definition of 'Lenis'. As for the stop /t/, Sībawayhi may have considered it of less tension compared to its double articulated (velarized) version /ṭ/, which he has classified as 'majhūrah'. This should at the same time resolve the question why /ṭ/ was placed there. As for /k/, it could fit in this setting if we accept the possibility that Sībawayhi and his followers have felt that /k/ is of less 'tension' compared to /q/,

so they classified /k/ as 'mahmūs/, and for the same reason they placed /q/ among the 'majhūrah' sounds. Accounting for this assumption is the fact that /k/ and /q/ were the only two phonemes linked together (at the furthest parts of the tongue and palate) by Sībawayhi and the others, in their categorization of /maḫārij al-ḥurūf/ 'the articulatory positions of the phonemes'; the rest were singles, threes, or more. This is in addition to what we have seen about the allophone /g/, stated by Ibn sīnā¹ to be a dialectal variant of /k/, but used by the Bedouins in place of /q/.

To sum up, the arguments presented in these last paragraphs about 'hamzah', which covers the three phonemes in dispute (i.e. /ʔ/, /q/, /ḡ/) should: (1) settle the question about these three phonemes being classed as 'majhūrah', (2) justify completely the interpretation of majhūr/mahmūs as equivalent to Fortis/Lenis respectively, and (3) finally equalize the voiced and the voiceless phonemes of the contemporary form of CA, with their parallels in the classification handed down by the classical Arab grammarians.

2.1.3 THE EMPHATIC (VELARIZED) CONSONANTS

'Emphatics' or 'Emphasis' is a conventional term used by modern linguists to denote the phonetic features of the Arabic consonants referred to by the traditional Arab grammarians as 'ʔiṭbāq',

¹ loc.cit.

'ʔistiʕlāʔ' or 'tafḫīm'. But different views emerge when this term is compared to the other phonetic term 'velarization'. In one opinion the term 'emphasis' is meant "to denote a quality characteristic of the Semitic (and Hamito-Semitic) languages" which is known as 'velarization' when applied to Arabic.¹ The other view is that 'emphatics' is a more general term, traditionally applied to a group of Arabic consonants which includes the velarized ones.² The disagreement between the two opinions here is presumably attributable to the manner in which the wide variety of the phonemic types subsumed under the two terms are constituted.³ Some of these consonants are pharyngealized orals (e.g. pharyngealized dentals), but others are purely produced in the pharynx and therefore said to be 'mufaḫḫama par nature'.⁴

Lehn⁵ believes that the identification of 'emphasis' with 'velarization' only, was a result of the prominence of this feature in the traditionally recognized 'emphatics'. But the fact is that

¹ Moscati, op.cit., p.23; Cf. Corriente, 'From old Arabic to Classical Arabic through the Pre-Islamic Koine', p.75 (foot).

² Obrecht, Dean H., Effects of the Second Formant on the Perception of Velarization Consonants in Arabic, Mouton, The Hague, Paris 1968, p.19.

³ Cf. Krámský, Jiří, 'N.S. Trubetzkoy and Oriental Linguistics', Archiv Orientální, 16 (1947-49) 225-64, p.244.

⁴ Jakobson, 'Mufaḫḫama', p.112. The term 'Mufaḫḫama' is at present generally used for the emphatic consonants, and this sense is according to Rabin (Ancient West-Arabian, p.121) "derived from the fact that ʔalif at-tafḫīm occurs regularly in the vicinity of emphatic consonants".

⁵ Lehn, Walter, 'Emphasis in Cairo Arabic', Language, 39 (1963) 29-39, pp.30-31.

a phonetic complexity of the first and one or more of the following articulatory features would have to occur at the production of 'emphasis': (1) slight retraction, lateral spreading, and concavity of the tongue and raising of its back (velarization), (2) pharyngealization, (3) labialization, and (4) increased tension of all the muscles involved making the emphatics more fortis than the plain segments. These features are influenced environmentally, phonemically and speakerwise. These conditions are quite convincing if tested against the contemporary pronunciation of the Arabic consonants that are generally referred to as the 'velarized consonants', and which involve a kind of double articulation, i.e. front articulation simultaneous with velarization. These consonants are paired with their non-velarized (un-dotted) counterparts thus:¹

{ Plain	:	b	d	t	z(ð)	ṣ	m	n	l	r
{ Velarized	:	ḃ	ḍ	ṭ	ẓ(ḏ)	Ṣ	ṡ	ṇ	ḷ	ṛ

But here we are particularly concerned with the ones that are known to have existed in CA, and which were traditionally described by the Arab grammarians as the /muṭbaqah/ 'covered' letters, because the tongue has to cover the opposite part of the palate in order to produce them.² Those are the four consonants (/Ṣ/, /ḍ/, /ṭ/, /ḏ/), of which

¹ Obrecht, op.cit., p.20; Cf. Naṣr, Raja T. 'Velarization in Lebanese Arabic', Phonetica, 3 (1959) 203-209; Ferguson, C.A., 'Review of: 'Manuel élémentaire d'arabe Orientale (Parler de Damas)', by J. Cantin-eau and Y. Helbaoui, Language 30 (1954) 564-70, p.566.

² The root /ṭbq/ does not occur in the northern Semitic Languages, therefore Vollers suggests that the numerous verbal forms must be derived from the noun /ṭābaq/ which is the Arabicized form of the Persian tābe (see: Vollers, 'the system of Arabic sounds', p.148).

the /ḍ/ is particularly problematic, because according to those classical grammarians the 'outlet' of /ḍ/ is the side of the tongue which is covered by the molars, not the palate itself. In other words, only part of the tongue is covered by the palate. And that is perhaps why it was considered anomalous to the other covered three which become /s/, /t/, /ṣ/ respectively when uncovered, while /ḍ/ is excluded from the language altogether when it is uncovered "because no other comes out of its position".¹ However, a separate discussion of this /ḍ/ will follow shortly.

But why should we concern ourselves mainly with the four phonemes, or as Lehn² puts it: does emphasis in Arabic function in a unique way, such that it must be analyzed differently from other features? The major points in the dispute about the 'peculiarity' of the emphatic phonemes could perhaps be summarized as follows:³

(1) Vollers thinks it is not superfluous

"... to remark that among the four sounds in question there are three spirants (ṣ, ṣ̣, ḍ) and one stop (ṭ), three voiced (ṭ, ṣ̣, ḍ) and one voiceless (ṣ), three with a correspondent non-covered sound, and one without it."

(2) In his discussion of these sounds, Wallin sees no reason for their peculiarity and denomination.

¹ Ibn Jinn̄, op.cit., pp.70-71; Howell, op.cit., IV.II, pp.1729-30.

² Op.cit., p.33.

³ For a discussion of the characteristics of the emphatics see Vollers, 'The system of Arabic sounds', pp.148-49; Cf. Magee, 'The Pronunciation of the Prelingual Mutes in Classical Arabic', pp.74-77.

(3) For Brücke, the characteristics of the emphatic sounds are not in their special place of utterance, but "(a) in their affecting the following vowel, (b) in a different tune of the voice, (c) in the duration of the stopping, as (ṭ)". But Brücke was dealing with /ṭ/ as a variety of /t/ and with /ḍ/ as a variety of /d/, and this is different from their classical description in old grammars.

(4) Under the influence of Sanscrit grammar, Lepsius called these four sounds 'linguals' and described them in a way that does not tally either with the lateral /ḍ/ or with the lisping /ḏ/.

(5) In his proposal for a new definition on the basis of the remarks of Wallin and Brücke, the American scholar, Allen, says

"The peculiarity of the emphatic sounds is a combination of glottal catch with the mouth position. The glottal catch may follow the mouth position, or may be simultaneous with it."¹

But this was opposed by the fact that the glottal catch (or hamzah) was well known to the old Arabic authorities, nevertheless it is missing in their definition of 'al-iṭbāq'.

In fact the old Arabic authorities have indicated the peculiarity of these sounds in a clear way that is totally lacking in our modern discussions. As mentioned by Lehn, the fact that

¹ See Vollers, op.cit., p.149.

Arabic orthography provides separate letters for these four 'emphatics', indicates that they were the only sounds recognized in the traditional description as distinctive emphatics. Emphasis in vowels, nasals, other stops and the rest, does not seem to have been so distinctive as to be represented in separate graphs. This would, in a way, reveal the influence of orthographic considerations on the traditional descriptions of Arabic phonology. It should also settle the question whether 'emphasis' is to be considered as a segmental - as was the case with the traditional Arab grammarians who have classed the emphatics as separate phonemes - or a suprasegmental feature, for if it were regarded as suprasegmental, then the Arabic orthography would have provided some sign -- like the Šaddah in the case of gemination - for it. At any rate this is the claim of some Western Arabists. According to suggestions by Harris and Ferguson, for instance, 'emphasis' should be "treated as a phonemic long component".¹ Also, Harrel would give three reasons for treating 'emphasis' as a suprasegmental feature. But two of his reasons (emphasis being stylistic and gradient features) were ruled out as being equally common in other phonological features, e.g. nasalization of vowels, voicing, length, etc.; and the third reason, though relevant and accurate, would in the end be open to dispute over the three criteria in terms of which 'segmental' and 'suprasegmental' should be defined.

¹ Blanc, Haim, 'Review of: Harrel 'The Phonology of Colloquial Arabic',
² Word, 15 (1959), 539-43, p.540.
² Lehn, op.cit., pp.36-37.

In connection with this there is the question of 'neutralization', where these 'emphatics' are thought to be phonologically conditioned segments. It has been suggested that: 'emphasis' is not neutralized in Arabic.¹ That is to say: any two emphatically contrasted consonants can positionally replace each other, as though they were allophonic variants in free alteration with one another in the same position, which may correlate in use with reasons other than the phonological condition. This assumption is what Ferguson wanted to invalidate and prove wrong in the case of the /l:l/ contrast in Arabic. It was the purpose of his article on the Arabic /l/ "to make clear why the emphatic /l/ must be regarded as an independent phoneme in classical Arabic and in most if not all the modern dialects".² The arguments that he applied to the questionable /l:l/ contrast, would by all means apply to the confirmed emphatics vs plains contrast.

The crucial point in the question of 'emphatics' is perhaps their 'positional occurrence', whether it should be determined by their vocalic environment or vice versa. This has been a matter of particular concern to some modern linguists in their treatment of the contemporary dialects of Arabic which manifest a good deal of the structure of CA. Harris states the fact that several of the

¹ Kramsky, op.cit., p.244; Cf. Ferguson, Charles A., 'The Emphatic l in Arabic', Language, 32 (1956) 446-52, p.449.

² Ferguson, 'The Emphatic l in Arabic', p.446.

emphatic phonemes have no association with vowels in their positional occurrence, so that they are not determined by, say, back vowels as emphatic variants of the non-emphatic phonemes. Yet he suggests that the converse is also true:

"Instead of considering t, ṭ, etc., as distinct phonemes, and calling u, o, etc., variants of a single phoneme, we might have considered u and o, for example, distinct phonemes and called ṭ the variant of /t/ next to /o/. This would certainly have been possible in the case of ḷ and Ḫ, which occur only next to vowels."¹

As for CA, it may not be out of place to consider this question in comparison with other Semitic languages. Geers sums up his treatment of 'the emphatics' in Akkadian by saying:²

"An Akkadian consonantal base does not admit two different emphatic radicals; whenever the other Semitic languages exhibit two such sounds within a triconsonantal root, the Akkadian has changed one of them, according to its strength, to the nearest nonemphatic sound."

Now, the question that immediately poses itself here is, which of the two processes (assimilation vs dissimilation) has played the role here? Is it the dissimilation process that changes the emphatic of other Semitic languages into non-emphatic in Akkadian, or is it assimilation that reverses the process from Akkadian into other Semitic languages?

¹ Harris, Zellig S., 'The Phonemes of Moroccan Arabic', in: Papers in Structural and Transformational Linguistics, D. Reidel Publishing Company/Dordrecht, Holland 1970, 161-76, p.172.

² Geers, Frederick W., 'The treatment of Emphatics in Akkadian', Journal of Near Eastern Studies, 4 (1945) 65-67.

We have, for instance, these Akkadian-Arabic pairs:¹

<u>Akkadian</u>	<u>Arabic</u>	<u>Meaning</u>
maqātu	maqata	overturn, break, irritate
ṣabātu	ḍabaṭa	hold forcibly
laqātu	laqata	pick up, glean
kalāṣu	qalaṣa	turn up, crumble

None of these would indicate the priority of either of the two processes. Nor would the fact help in clearing this that we have two other Arabic words, slightly different in meaning from the first pair mentioned above, and simultaneously exhibiting the same phonemic difference that appears here between Akkadian and Arabic, such as: /maqata/ 'hated' and /ḍabaṭa/ 'grasped, laid hold upon'.²

But if we look into the Hebrew lexicon for the equivalent of the Arabic word /qatala/ 'killed', we find /qāṭal/, with a reference to the fact that "the original form was with /t/; changed later after /q/".³ This statement would indicate two things. Firstly, the further possibility that /q/ itself was an alteration or a replacement of an earlier phoneme or allophone. This other sound is - by way of comparison - mostly a /k/, as it is the case in some other Semitic languages. Geers⁴ - regarding /q/ as an emphatic - says:

¹ Ibid., p.66.

² See Lane, Arabic-English Lexicon, I, Part 5, p.1763, and Part 7, p.2727.

³ Gesenius, W., A Hebrew and English Lexicon of the Old Testament, ed. F. Brown, Oxford 1906, p.881.

⁴ op.cit., p.65.

"... if we ignore indecisive writings of the type ik/q-ṣur, not a single Akkadian source authorizes the postulated initial q. The scribes consistently used the syllabic signs ka, ki and ku in representing this initial consonant and never used qa qi and qu."

Secondly, the replacement of (/t/ > /ṭ/) is a consequence of the change of (/k/ > /q/).

If that is so, then the later change of /t/ into /ṭ/ is undoubtedly a process of 'assimilation' meant to occasion velarization (emphasis) in the adjacent consonant. The same interpretation could apply to the second form of the Hebrew synonym (/sāḥaq/, /ṣāḥaq/) for the Arabic word /ḍaḥika/ 'laughed'.¹

On the basis of this argument, one would tend to interpret the coexistence of two emphatics in a word of CA as a result of an assimilative process of velarization. Such a classical process of assimilation would indeed seem to have preserved its role in contemporary dialects of Arabic, e.g. the Irāqi dialect, where "/t/ is velarized in contiguity with emphatics /ṣ/ and /ḍ/: /yuṣṭubur/ 'to be patient' /muḍṭarr/ 'forced'".²

A direct statement which confirms in Arabic the assimilation process that we gathered from comparison with other Semitic languages, is Ferguson's:

¹ Cf. Gesenius, op.cit., pp.85,965.

² Altoma, Salih J., The Problem of Diglossia in Arabic: A Comparative

³ Study of Classical and Iraqi Arabic, Harvard University Press, 1969, p.17. op.cit., p.449.

"In general, whenever an emphatic and a nonemphatic consonant would be expected, either for historical reasons or on synchronic morphological grounds, to occur immediately next to or in the neighbourhood of each other, the nonemphatic tends to appear as an emphatic."

One could see that the case is reversed here, compared to the Akkadian language.

2.1.4 THE EMPHATIC /l̤/ AND /d̤/

(a) /l̤/: The early description of /l̤/ is considered in some of the modern writings on Arabic phonology as one of the points where Ṣībawayhi was a little imprecise. He seems to have reversed the facts about the points of articulation for each of /d̤/ and /l̤/, when he located /d̤/ in the beginning of the edge of the tongue, while /l̤/ in the edge of the tongue.¹ This is a sound critical point, except for being based on contemporary pronunciation which is hardly a reflexion of the old one in this particular case.

However, the fact that /l̤/ vs /l̤/ contrast is not supported orthographically, and is besides quite limited in use, makes "literate speakers protest that they are 'the same'." Nonetheless, the contrast is recognized, due to the existence of minimal or near minimal pairs, such as (/alla/ 'he said to her' vs /aḷḷa/ 'God'),² especially in view of the fact that these comparatively few lexical items with

¹ See Semaan, Linguistics in the Middle Ages, p.59; Cf. Anṯ's, op.cit., pp.98-9; Ṣībawayhi, op.cit., II, p.453.

² See Obrecht, op.cit., p.21.

/l̤/ are of much more frequency than those with the velarized nasal phones (i.e. /ṁ/, /ṇ/),¹ albeit those nasals may be out of our concern here.

In CA this question is considered mainly under the subject of 'tajwīd' (study of Qurʾān-recitation), where this emphatic /l̤/ is known as /lām muḡallaḏah/ against the plain /l/ called /lam muraqqaqah/, meaning two allophones of the same phoneme. It is also known as /l̤/ /mufaḫḫamah/ 'dignified', a term used for a variety of /ā/ we shall come across in the section on vowels. According to Gairdner,² these are the only two cases where this term (mufaḫḫam) is properly used. The word /ʔaḷḷah/ 'God' is the example frequently quoted by him and others for this 'dark' /l̤/ in CA,³ otherwise its occurrence is governed by the vicinity of the four emphatic sounds /ṣ, ṭ, ḍ, ḏ/

"... provided that: (1) these precede immediately /l̤/ which, in turn, must be followed by /a/ or /u/ as in /faṣḷun, naṭlub, ʔaḏḷalna, ʔaḏḷama/, or (2) the first two /Ṣ or ṭ/ are separated from /l̤/ by a short /a/ and that /l̤/ is followed by /a/ or /ā/ as in /ṣaḷātun/ and /ṭaḷaba/."⁴

As for colloquial Arabic, the Irāqī dialect⁵ renders three positional occurrences of the emphatic /l̤/ that are phonologically conditioned in a way not very much different from that of

¹ Ibid., p.37.

² The Arab Phoneticians on the Consonants and Vowels, p.256.

³ Cf. Gairdner, The Phonetics of Arabic, p.19.

⁴ Altoma, op.cit., p.14.

⁵ Ibid., p.15.

CA: (1) next to a velarized consonant, e.g. /gḷūb/ 'hearts',
 (2) separated from a velarized consonant by a short or long vowel,
 e.g. /ḫaḷag/ 'ragged', (3) next to or separated by a vowel from
 the emphatics /Ṣ, ṭ, ḍ/ or the emphatic allophones of /b, m, f/,
 e.g. /yiḍlum/ 'he oppresses', /gaḅul/ 'before', /raḡul/ 'sands'.

Speaking generally of the colloquial and CA, with the intention of substantiating his claim that 'The emphatic ḷ must be regarded as an independent phoneme in classical Arabic and in most if not all the modern dialects', Ferguson¹ states three situations for the occurrence of /ḷ/ "of which at least the first two hold for classical Arabic": (a) in certain forms of the word for God, (b) in the neighbourhood of other emphatic consonants, and (c) in other unpredictable items, such as loan-words. Then he bases his arguments on the following points:

(1) /ḷ/ in /ʔaḷḷāh/ 'God' is a separate phoneme, otherwise this word must be treated as outside the phonological system of Arabic. But as this word (ʔaḷḷah) contains normal phonemes, combines morphologically in a normal way as in taking case endings, and occurs frequently with a clearly defined meaning, no linguist would agree to exclude it from this system.

(2) The fact that this /ḷ/ is of such an extremely rare occurrence in the total lexicon, and yet appears in a word of a very

¹ The Emphatic ḷ in Arabic, pp.446-49.

frequent occurrence is not unusual; because we find a similar case in the English /ð/ and also in the Tunica /g/ which is said to occur only in the word for mother.

(3) This /l̥/ cannot be regarded as a stylistic variant of the regular /l/ phoneme "since in certain alternants of the word for God the /l̥/ must be used," and because a 'stylistic variant', as understood by all structuralists, is an allophone in free alternation with another variant in the same position (i.e. phonologically unconditioned). Hence a given sound cannot be called a stylistic variant of a certain phoneme just because it occurs chiefly in a particular word, as long as it is used there always and by all speakers.

(b) /ḏ/: The Arabic consonant /ḏ/ (i.e. ḏād)* has always been confusingly complex in features and realization, and consequently has generated many discussions and disputes. A recapitulation of the discussion of this sound by Vollers may serve as a good prelude to the assessment of the subsequent arguments.

Vollers¹ presents 'ḏād' as the most disputed Arabic sound. The major points in his discussion are: (1) This sound is alien to all European languages, and its true nature in Arabic is obscured by

* The symbol /ḏ/ is adopted here to represent the classical Arabic 'ḏād' (unless otherwise contextually determined), although it is generally used to symbolize what is usually known as the Egyptian variety of it.

¹ The System of Arabic Sounds, pp.145-7.

the instability of the tradition of the native scholars. (2) All the European grammarians followed Brücke in his mistaken identification of the classical sound with the modern Egyptian /ḏ/. But /ḏ/ is a stopped sound, while /ḏād/ is classed by the native scholars as a spirant. (3) According to native tradition, its /maḵraj/ 'place of utterance' is "the side of the tongue and the molar teeth; that is to say it is a lateral or side-spirant, and so approaches very near to /l/ and vice versa".¹ Philologists disagree upon the correct articulation, whether it is the right side, the left side or both sides are equally correct. (4) Combining all these characteristics, Vollers concludes: "I do not hesitate to transliterate the 'ḏād' by 'z (or ẓ or z²) lateral".² (5) In modern Arabic speech, "the classical lateral spirant is not found anywhere".³ (6) What we find now are two varieties of this sound which have also existed in the earliest epochs of Arabic speech by the side of the classical lateral one: (a) a sound identical or near to the English voiced /th > ð/, among the Bedouins. This is possibly the variety of 'ḏād' that was - according to al-Farrā'ī⁴ - dialectically pronounced like /ð/ in early times. Because /ð/ is classed traditionally in 'maḵraj' with the interdental /ð/ and /θ/, and this may explain why the ḫalīfa ʿUmar did not distinguish between /ð/ and /ḏ/, and why the common

¹ Vollers, op.cit., p.145.

² loc.cit.

³ loc.cit.

⁴ Cf. Lane's Lexicon, p.1795.

people said /qaḏ̣f/ instead of /qaḏ̣f/. "The same fact, the existence of a ḏ-sound besides the lateral spirant 'ḏād', is proved, I think, to have been known in the oldest times, by the inter-Semitic rules of phonetic permutation."¹ (b) a d-variety of 'ḏād', among the settled populations and also much used by scholars, is recorded by the best scholars to have existed in old times.

If we now take these points respectively, we find that:

(1) It is true that Arabic is singled out as the only language with the phoneme /ḏ/, and is thus known among Arab scholars as /luġat al-ḏād/ 'the /ḏ/-language', implying that peoples other than Arabs are not capable of pronouncing this sound.² But we shall see that, on the one hand, it is also believed to have existed in another Semitic language, i.e. old Ethiopic; and on the other hand, the consonant /ġ/ is also strongly argued to be an Arabic innovation, i.e. not a proto-Semitic consonant, it is only found in Arabic.³

(2) As for Brūke's mistaken identification of /ḏ/, there is a possibility that as he was confused by the instability of the native tradition on the true nature of this sound, he opted for identifying

¹ Vollers, op.cit., p.146.

² Cf. Gairdner, The Phonetics of Arabic, p.20; Anṯ's, I, al-Aṣwāt al-luġawiyyah, p.50.

³ See Moscati, op.cit., pp.38-9 - Ibn Jinnṯ says: "the 'ḏād' is peculiar to the Arabs. For the non-Arabs it only rarely occurs in speech" [Sir Sinaṣat al-ʔiṣrab, vol.1, p.222], and so is the /ḏ/ according to al-Qāmūs al-Muḥṯ.

the classical sound with the Egyptian /ḏ/, encouraged by the fact that it is equally well used by the Egyptians in their Qurʾānic recitation which is expected to be nothing but classical.

(3) The core of this point is that 'ḏād', as described by the classical grammarians, is a lateralized phoneme, with a disagreement as to the correct side of the tongue for its production. The fact is that Sībawayhi does not say which side is or is not preferable, but Ibn Jinn¹ states that it is optional to choose either side.¹

The lateral quality makes the 'ḏād' hardly distinguishable from the phoneme /l/. In fact Ibn Jinn² specifically remarks that /l/ is the nearest sound to /ḏ/, and that was the reason for its being chosen by a poet to replace /ḏ/ in the word /lṭajaʃ/. This is perhaps why it has been preserved in the form of /ld/ in some of the Arabic loanwords in Spanish such as 'alcalde',³ and it has also been suggested that "in the Malay language the 'ḏād' of Arabic words is transliterated by /dl/ or /l/, and on the Philippine island Mindanao by /l/ only".⁴ This, of course, could be interpreted as an indication of the possibility that the introduction of such Arabic loan words in such languages goes back to the classical times when

¹ Ibn Jinn¹, op.cit., p.52.

² al-Munṣif, 2, pp.328-29.

³ See Beeston, The Arabic Language Today, p.18.

⁴ Vollers, The System of Arabic Sounds, p.145 (foot.3).

this sound was still upholding its original articulation. In fact, this is not far from McDonald's belief that according to Sībawayhi's description the 'ḏād' was a lateral sound; and that its representation as /ld/ in the Arabic words borrowed into Spanish such as /al-calde = al-qād̥/ 'the judge', is nothing but a persistence of that original lateral value, which indicates that the shift in value to /ḏ/ may have taken place at a late date.¹ As to why it is not lateral today, Corriente² suggests that as palatalization had - in modern pronunciation - substituted everywhere for lateralization "'ḏād' shifted to the interdental triad and merged with /ḏ̥/, a situation prevailing in all Bedouin dialects till this day".

Magee holds a different theory, which confirms the conclusions arrived at by Brockelmann,³ and presents a reasonable solution to the question of this phoneme, based on the dialectal developments and Semitic comparison. He assumes that, originally, i.e. in proto-Arabic as well as in proto-Semitic, 'ḏād' had the value /ḏ̥/. In CA it changed into /z/ in accordance with the Semitic (Akkadian-Hebrew-Ethiopic) tendency to change prelingual spirants (fricatives) into sibilants. In colloquial (among non-Bedouins)

¹ McDonald, M.V., 'The Order and Phonetic Value of Arabic Sibilants in the "ABJAD"', Journal of Semitic Studies, 19 (1974) 136-49, p.40.

² 'From Old Arabic to Classical Arabic Through the Pre-Islamic Koine', pp.76-77.

³ Magee, W.L., op.cit.; Cf. Brockelmann, Carl, Grundriss der vergleichenden Grammatik der semitischen sprachen, Berlin, 1908, Vol.1, pp.128-29.

it followed the classical change among the upper classes, but changed into /d/ among the common people in accordance with the dialectal development towards the replacement of spirants by plosives (stops). As to the question of lateralization, it was a matter of dispute between Brockelmann, Cohen and Colin, whether this phoneme has acquired lateral articulation later, alongside its development into /ḏ/ in classical times, or whether it was from the beginning a lateral emphatic /ḏ/.

A third approach is adopted by Greenberg on the basis of his study of the patterning of the Arabic trilateral root. For him, both the lateral theory and the theory of Vilenčik that locates 'ḏād' among the post-palatal series, were accordingly rejected. He found, on the one hand, that the total actual frequency of the occurrence of 'ḏād' with the sibilants and interdental consonants in the Arabic trilateral roots is significantly less than the expected total frequency. On the other hand, the 'ḏād' behaves more like a member of the sibilants or interdental consonants as they occur rarely together but with greater frequency with the dental consonants. Hence, he concludes "The present data, then, support the interpretation of ḏ, either as a sibilant or interdental fricative".¹

This is supported by the fact that in classical Ethiopic, which is the only other Semitic language where /ḏ/ is kept as a

¹ Greenberg, 'The Patterning of Root Morphemes in Semitic', Word, 6 (1950) 162-81, pp.173f.

distinct phoneme, it has the same general features of patterning as those of the Arabic 'ḏād', i.e. behaving like a sibilant or interdental.¹ But as 'ḏād' coalesces with /ʃ/ in three Semitic languages (viz. Canaanite, Assyrian, later Ethiopian), and has the same script as /ʃ/ in Arabic with only a difference of a diacritic over /ʃ/, and is assigned by all earlier Arab grammarians the same point of egression as /ʃ/, then it would seem more likely to have been in CA a sibilant (palatal fricative) rather than an interdental.²

A fourth approach which in fact presents a new problem is the grouping of 'ḏād' - in the book 'Kitāb al-ṣayn' of al-ḫalīl - together with /j/ and /ʃ/ under the heading 'ḥurūf šajriyya' whose most reasonable translation is 'palatals'. This is problematic, because in the traditional description /ḏ/ has no merit over /l/ which is not grouped with these three. There is the possibility that /šajr/ meant at that time both the hard and soft palate indistinguishably, but that would solve no problem. At any rate, the involvement of a foreign - particularly Persian in McDonald's³ view - mispronunciation of this sound is another possibility.

(4) Looking at Vollers's conclusion (i.e. ḏād = ʒ or ʝ lateral) in the light of those variously displayed approaches and

¹ Ibid., p.174.

² Cf. loc.cit. (foot); Vollers, op.cit., p.146.

³ 'The Order and Phonetic Value of Arabic Sibilants', in the Abjad, p.42.

descriptions, one would notice that the conclusion is in line with Magee's reasonable assumption as far as the classical stage is concerned, in addition to the lateral feature which is generally held by the others. Thus, his conclusion appears to be readily acceptable by the different rivals.

(5) To conclude that the CA lateral spirant /ḍ/ is now non-existent anywhere, may sound like a sweeping judgement, unless it is founded on a thorough survey that covers every contemporary Arabic dialect.¹ Vollers makes no claim as such, but the discussion of what he states in the following point may suffice for that conclusion to fall within reason.

(6) The fact that both 'ḍād' (i.e. /ḍ/) and 'ḍā?' (i.e. /ḍ/) have existed in CA is evidenced by the existing Arabic minimal pairs:

/naḍṭr/	'bloomy'	/naḍṭr/	'equal, match'
/ḍall/	'to stray'	/ḍall/	'to stay'
/fāḍ/	'to overflow'	/fāḍ/	'to expire, to die'
/ḡāḍ/	'to recede'	/ḡāḍ/	'to anger'

But the merger of the two sounds in some parts of the Arab world, in words such as: /ḍēf/ < /ḍēf/ 'guest', /abyaḍ/ < abyad/ 'white', has given rise to a prevalent confusion among the speakers towards

¹ It might be remarked here that lateralized sounds exist in at least one group of contemporary Semitic languages, i.e. the South Arabian languages of Zufār, according to T.M. Johnstone (conversation with Dr M.V. McDonald).

defining the identity of /ḍ/ or /ḏ/, especially when confronted with the like of the mentioned CA minimal pairs, since these are semantically discrete words, which leaves no possibility of considering them synonyms or dynonyms. This is happening, for instance, in Iraqi Arabic, where "the /ḍ/ in Baghdad Arabic is the velarized counterpart of ḏ, not d",¹ and the "CA /ḍ/ is no longer preserved".²

In modern Arabic generally, both varieties exist, i.e. it is alternatively realized as /ḍ/ (the velarized equivalent of the stop /d/), or as /ḏ/ (the velarized equivalent of the fricative /ḏ/). But the latter is mostly confused with /ẓ/ among the uneducated, otherwise it is especially retained as /ḏ/ among the Bedouins.³ Lane⁴ recognizes this Bedouin pronunciation of 'ḍād', as a dialectal variety produced by "making its place of utterance to be between the extremity of the tongue and the central incisors, which pronunciation is peculiar to a dialect", just like its substitution for /l/ and /ṣ/. Then he quotes that some of the Arabs substitute it for 'ḏā?' "but that the doing thus, though allowable in speech, is not allowable in the reciting of the Book of God, which follows the rule, or usage, of the prophet".

However, though the two varieties may be assumed to have existed since the classical era, there is a possibility that the

¹ Ferguson, Charles A., 'A Review of Van Wagoner's spoken Iraqi Arabic, Word, 7 (1951) 276-79.

² Altoma, op.cit., p.13.

³ Cf. Magee, op.cit., p.75; Beeston, loc.cit.

⁴ Arabic-English Lexicon, article 'ḍ'.

difference between them "was not as distinct as is the difference between the Egyptian /ḍ/ and IA (Iraqi Arabic) /ḍ/";¹ and that the CA 'ḍād' as traditionally described (i.e. /ḍ/ lateral) may have existed as a characteristic of only one dialect, viz. Qurayṣ-dialect.²

Now, having a look at the various aspects of this discussion, it may not be too unreasonable to conclude that the CA 'ḍād' was in fact 'the lateral spirant /ḍ/', particularly in the dialect of Qurayṣ. But other dialectal varieties, such as the velarized stop /ḍ/ and the non-lateral /ḍ/, have simultaneously existed. The only question is whether these dialectal varieties were at that classical time admissible as part of the seven dialects or accents³ recognized in the Qurʾānic recitation.

2.1.5 ḤURŪF AL-ḌALĀQAḤ (LIQUIDS)

All the authorities in 'Lisān al-ʿArab' and other Arabic lexicons have 'ḍalāqah' as something lingual: having to do with the tongue. Ibn Jinnī agrees with them and then adds the interpretation that 'ḥurūf al-ḍalāqah' are so called because of their high frequency in the language. In other words, it was this high frequency rather than the place and manner of articulation that has led to the coining

¹ Altoma, op.cit., p.159.

² See, Anṣ, op.cit., p.50.

³ For the dialect/accent distinction see: Abercrombie, David, Problems and Principles in Language Study, 2nd ed., Longmans, London 1963, pp.41-4.

of this term.¹ This unusual interpretation of the term by Ibn Jinn² must have been inspired by his special concern with the single word formation. He is the one who among the Arab philologists has devoted special attention to the Arabic sounds and their formation in words. His books 'al-Munṣif' and 'Sirr Ṣinaṣat al-iṣrāb' are wholely committed to this concern, and they were in fact the pioneer lengthy works in this field of study.

So it seems to be he who originated the use of the term 'ḥurūf al-ḍalāqah' to comprise the three consonants known in Western linguistics as 'liquids' (i.e. l, r, n), together with the other nasal /m/, the labiodental /f/ and the bilabial /b/. The rest of the sounds were called in that respect /muṣmatah/ 'hard or fast',² because - according to Ibn Jinn³ - it is not allowed to form a quadriliteral or quinqueliteral Arabic word devoid of one of these six smooth consonants. In other words, the quad. and quin. words - being heavy in comparison with the trilaterals - are not allowed to be quite free of some of these light liquid sounds; so that whenever you see such a word devoid of these letters, such as /ṣasjad/ 'gold' and /dahdaqah/ 'fracture', then it is exotic in Arabic. Howel⁴ generalizes the term 'liquids', and he explains this lexicographical value in his statement that

¹ Cf. Anṭ's, op.cit., pp.79-80.

² Cf. Vollers, op.cit., p.152.

³ SirrṢinaṣat al-iṣrāb, pp.74-5.

⁴ A Grammar of the Classical Arabic Language, IV.II, p.1732.

"Liquidity is elegance, and lightness, in speech.
And these are the lightest of the letters
They are named 'liquids' because liquidity, i.e.
quickness in articulation, is only through the tip
of the tongue and the lips which are the two compart-
ments of these six letters ... these are the letters
that mix best with others."

Another significant point that makes the 'liquids' noteworthy is their role as an example for the classification of sounds according to their pattern-occurrences. Ibn Jinn¹ states that "Regarding Arabic formation, the most elegant words are those formed of sounds that are distant in their various points of articulation". The closer the sounds, the worse their formation in a word is. Some Arab lexicographers used this principle as a criterion of loan-words, where the simultaneous occurrence of particular sounds (e.g. /ʃ/ and /j/) in a root invalidates its genuineness in Arabic.²

On the other hand, this statement of Ibn Jinn was the closest to the conclusions arrived at by Greenberg in his study of the patterning of Arabic root morphemes. The series of consonants are linked with each other on the basis of their like behaviour in the patterns, and thus rules of non-occurrence were produced. According to these rules - which consider the exclusion of homorganic and identical consonants in the various combinations of patterns - the less the consonants occur together the more similar they are, and the

¹ Op.cit., pp.75-7.

² Cf. Al-Karouri, A.M., Al-Daxl fī al-luġah al-ʿarabiyyah, M.A. thesis (unpublished), University of Khartoum, 1970, pp.63lff.

converse is the case.

"A somewhat lesser degree of resemblance is found between l and n, and least between r and n, using this criterion. The liquids are found to occur freely with all non-liquid consonants, both those in front and in back of their point of articulation. They therefore form a section."¹

A most striking result of this study of pattern phenomena is the agreement of the articulatory positions arrived at by this study with the 'maḫārij' (sing. maḫraj 'place of egress') stated by Sībawayhi and the other early Arab grammarians, concerning the classification of /r/, /l/ and /n/ as homorganic. This contrasts with the usual view that classifies /n/ as the nasal member of the series /d/ and /t/, just as /m/ does with the labial series /f, b/.²

2.1.6 THE NON-EMPHATIC SIBILANTS (/s/, /š/)

It has been suggested that "in early and Qurʾānic Arabic neither /s/ nor /š/ has its present-day value".³

Consulting my own pronunciation of the standard Arabic and that of the contemporary recitation of Qurʾān in general, for the present-day value of /s/ and /š/, I can only describe /s/ as 'an alveolar voiceless fricative' and /š/ as 'a palato-alveolar voiceless fricative'.

¹ Greenberg, op.cit., p.173, and see pp.162,171.

² Ibid., pp.162-63.

³ McDonald, op.cit., p.42.

Now, according to this description, the contrast referred to in the statement above between the old and the contemporary values of these two phonemes is based on the following points which are actually a summary of the arguments presented by McDonald in his paper on Arabic sibilants,¹ followed by our comments:

(1) According to Sībawayhi's description of /s̄n/, and the fact that he places its articulation with the other two palatals /j/ and /y/, this sound is clearly palatal, especially when we see that it is also grouped as one of the /ḥurūf šajriyyah/ 'palatals' in Kitāb al-ŷayn. On this ground, "it seems certain that its identification with /ç/ [as Beeston proposes] is correct"; and it is worth noting that his realization is - according to Johnstone - still surviving in the dialect of Raʿs al-ḫayma.

(2) For these reasons the suggestion that /š/ pronunciation is "like the Polish ś" (a palatalized /s/, phonetically /ʃ/) is dismissed.

(3) "Evidence from Jewish sources makes it seem unlikely that 's̄n' was pronounced as /s/.":

(a) Of the three Proto-Semitic non-emphatic sibilants /s, ʃ, š/,* the Biblical Hebrew maintained all the three in writing

¹ See ibid., pp.40-45; Cf. Beeston, A.F.L., 'Arabian Sibilants', J. Semitic Studies, 7 (1962) 222-33; Rabin, C., 'The Origin of the Subdivisions of Semitic', in Hebrew and Semitic Studies, presented to G.R. Driver, Oxford University Press, 1963, pp.104-115.

* According to the practice of IPA these three symbols represent the fricatives: /s/ 'alveolar', /ʃ/ 'palato-alveolar', /š/ 'palatal'. But as we are here concerned only with two of them, the representation would be: /s/ 'alveolar', /š/ 'palato-alveolar'.

but lost the distinction in pronunciation, while Arabic reduced them to two since an early period dating back to the proto-Arabic inscriptions (Liḥyanic, Thamūdīc and Ṣafaitic). "Thus Arabic *s̄n* is derived from P.S. /s/ and /ʃ/ and Arabic *sh̄n* is derived from /š/."

(b) The fact that both these sibilants were rendered in Aramaic script by *sh̄n*, indicates that both sounds were then more similar to /ʃ/ than to /s/ and that /s/ was not found in Arabic at that stage. Older loan-words from Arabic indicate that Arabic /s/ "corresponds to Hebrew-Aramaic /ʃ/".

(c) The fact that "all Aramaic loan-words with *sh̄n* appear in the Qurʾān with *s̄n* /s/, indicates that: a sound shift did take place, that Aramaic /s/ and /ʃ/ both sounded like *s̄n* to the Arab ears, and that Qurʾānic Arabic did not possess both /s/ and /ʃ/".

Having a look at the respective points of this Jewish-sources evidence, one would find the three points generally acceptable, apart from the fact that point (c) may not hold if it is taken on its own, because what we have considered as Aramaic loan-words in Qurʾān, could be in fact Arabic loan-words in the Aramaic language, and this would reverse the contrast /s:š/ in the two languages. In other words, it is difficult to decide here the way where the borrowing did really go. This is especially so, with the belief that this '*s̄n*' has existed in common Semitic as well as in Egyptian, and thus

the south Arabian is considered the most archaic branch of Semitic because of the existence of 's̄n' there.¹ So there is no feasibility of a late emergence of this 's̄n' in one of the two languages to settle the question either side. At any rate the first two points (a and b) may invalidate this assumption, and thus stabilize the entire argument.

One point, however, that does not fall in line with the 'sh̄n'-aspect of this argument - as it establishes the contemporary pronunciation of it - is that /s/ and /š/ are taken by some Semitists as one of the examples where the shape and phonetic value are together regarded as a dominant factor in the ordering of the Arabic alphabetic signs.² This, of course, could support the placing of /š/ as palato-alveolar, on the consequential assumption that, should it be 'palatal' then it should have had a shape approximant to the other 'palatals', i.e. /j/ or /y/, but the fact is that they are entirely discrete in their Arabic signs.

(4) S̄n (i.e. /s/) is more problematic. On the basis of S̄bawayhi's description, Beeston proposes to identify the 's̄n' with /ʃ/, but this would seem unsatisfactory when we closely examine that description. In his back-to-front arrangement of the letters, S̄bawayhi places the sibilants /z, s, ʃ/ after his alveolar stops

¹ Rabin, C., The Origin of the Subdivisions of Semitic, p.112.

² Driver, Semitic Writing, from Pictograph to Alphabet, revised edition, Oxford University Press, London 1954, p.185.

/ṭ, d, t/ and before his dental fricatives /ḥ, θ, ʕ/, indicating thus that the point of articulation of these sibilants is between alveolar and dental. And this is incompatible with the pre-alveolar /ʃ/ proposed by Beeston.*

To evaluate this argument let us concentrate on the key-word that carries the major point here which is the 'ordering' of these groups of sounds. If an alveolar sound is - as generally defined - the sound whose passive articulator is the teeth-ridge, and this /s/ is agreed not to be a dental, then it must be an alveolar, i.e. produced at the teeth-ridge, as there is no third passive articulator established between the teeth and their ridge.

Perhaps the confusion here is caused mainly by Sībawayhi himself, as he actually, for no apparent reason, deflects from his back-to-front arrangement of the letters when he locates the /ṭ, d, t/ group before the /z, s, ʃ/ group. But he, in fact, has kept that order or arrangement in his description. That is to say, although he reversed the sequential arrangement of these groups, he actually kept their sequential ordering in his identification of each. He identified the passive articulator for the first group /ṭ, d, t/ as /ʔuṣūl-al-ṯanāyā/ 'roots of incisors', and for the second /z, s, ʃ/

* In fact Beeston's proposal seems to be incompatible also with Rabin's clear statement that "the remarkable thing is that the final result both in Hebrew-Aramaic and in Arabic of all types was an opposition [s] / [ʃ]". Rabin, op.cit., p.108.

as /fuwayq-al-ṯanāyā/ 'a little above the incisors'. As for the third group (i.e. the interdentalals /ḏ, ḏ̣, ṯ/), Sībawayhi has actually placed them as interdentalals, produced at /ṯaraf-al-lisān wa aṯrāf-al-ṯanāyā/ 'the edge of tongue and edges of the incisors'.

An interesting point to note here is that Ibn Jinn¹ seems to have noticed this mistake of Sībawayhi in his ordering of the letters. But when he attempted to put it right, he too got confused by the terms. Instead of reordering the three groups of sounds, he just dropped 'fuwayq' from Sībawayhi's definition of the sibilants /z, s, ṣ/ and described them as /mimmā bayn-al-ṯanāyā wa ṯaraf-al-lisān/ 'from between the incisors and edge of the tongue', so as to have the three groups ordered forwardly as from: roots of incisors, the incisors, and edges of the incisors.

2.1.7 THE PALATAL STOP 'JṬM'

According to Sībawayhi and Ibn Jinn, the consonant 'jṭm' has the same place of articulation as /š/ (i.e. palatal), the only difference being that 'jṭm' is a plosive whereas /š/ is an affricate (or fricative). This would seem to suggest that the sound described here is something like Hungarian /gy/ (IPA /j/). The other alternatives are either the pronunciation /g/ or /z/, and these were both mentioned and rejected by Sībawayhi as deviations of /j/

¹ Sirr Ṣinaʿat al-ʿiṣrab, vol.1, p.53.

unrecommendable in the recitation of Qurʾān and poetry and in the speech of any learned Arabist.¹

These two rejected alternatives are actually, (1) the voiced velar stop /g/ of the English /get/, which is kept in the Egyptian (Cairene) realization of the CA 'jīm', e.g. /gamal/ 'camel', and (2) the voiced palato-alveolar fricative /ʒ/ of the English [pleʒə] 'pleasure' which is kept in the Syrian realization of 'jīm' in words like /ʒamīl/ 'beautiful'.

However, there seems little doubt that in later CA the sound became the /j/ of the English 'judge'. It might also be mentioned that in several modern Saudi dialects this sound is realized as /y/, e.g. /yamal/ (CA /jamal/ 'camel'). This is of interest in that it seems to retain the palatal nature of the original hypothetical sound, even though the manner of articulation has changed.

So the assumption that "In ancient Arabic this 'jīm' was a voiced stop like English 'g' in 'get'",² seems to have no ground, except for the Semitists' hypothesis that /j/ in Arabic is a development of an original CA /g/ which is considered by the Arab grammarians as a faulty pronunciation.³

¹ Sībawayhi, al-Kitāb, Paris 1889, vol.2, p.452.

² Beeston, The Arabic Language Today, p.18.

³ Cf. Moscati, op.cit., p.38.

This Semitists' view seems to be based on the fact that this /g/ did exist in the reconstructed hypothetical system of proto-Semitic consonants as it did particularly in Babylonian, later Assyrian and Hebrew.¹ Henceforth came the inductive conclusion that /g/ must have been there in an earlier stage of Arabic, but developed into the one that - according to Sībawayhi and others - seems to have been fluctuating sometimes between /g/, /k/ and /ʕ/, and sometimes becoming independent as a /j/.² However, if this argument is maintainable for any reason, then it should apply only to a period beyond our concern which is CA as described by the earlier Arab grammarians who regarded /g/ as a faulty pronunciation of /j/.

This leaves us with the single possibility that in CA the consonant 'j̄m' was a voiced palatal stop /j/, which is still retained in Sudanese Arabic and among some Arab tribes in Egypt, as well as in the inherited contemporary recitation of the Qurʾān. On the basis of this contemporary pronunciation of the CA /j/, Anṣ³ suggests that it is neither plosive nor fricative in its entirety, but it is somewhere in between. Nonetheless, one should tend to adopt the classical view in classifying it as a stop (plosive).

2.1.8 THE UVULAR/PHARYNGEAL FRICATIVES /χ, ġ, ħ, ʕ/

These consonants are generally known in Arabic as

¹ Cf. *ibid.*, pp.24,37.

² Cf. McDonald, *op.cit.*, p.43.

³ *Op.cit.*, pp.65-6,82.

/ʔaṣwāt al-ḥalq/ 'the guttural sounds', because of the place where they are produced. A good description of the plan for the production of each of them is given by Gairdner.¹

As the phonological chart reveals, they are all fricatives: two voiced (/ḡ/, /ʕ/) and their voiceless counterparts (/χ/, /ħ/) respectively. One more distinction between the uvulars is that /χ/ "is accompanied by uvular vibration", but /ḡ/ is not,² yet /ḡ/ to /χ/ "is not an exact correlative in Arabic, for no velar 'scrape' is heard".³ A simpler description of /ḡ/ is that it is "produced in the area of gargling".⁴

As for the distinction between /χ/ and /ħ/, an essential point is the 'scrape' (i.e. the velar vibration, or 'air-quivering' as Ibn ṣīnā⁵ calls it) which is a vital characteristic of /x/, not /ħ/ "for the least suspicion of 'scrape' turns /ħ/ into /χ/, a change which may change the meaning of an Arabic word into one that is utterly - sometimes disastrously - different".

Also it is necessary to note that 'voicing' is the vital difference between /ħ/ and /ʕ/, for the unvoicing of /ʕ/ results

¹ The phonetics of Arabic, pp.25-9.

² See The Principles of IPA, p.34.

³ Gairdner, op.cit., p.26.

⁴ Ibn Ṣīnā, op.cit., p.38.

⁵ Ibid., p.37.

⁶ Gairdner, op.cit., p.27.

immediately in /ḥ/, and this kind of substitution is actually what happens in colloquial Egyptian when /ʕ/ is followed by an unvoiced consonant, e.g. /bitāḥti < bitāʕti/ 'mine'.¹ Ibn Sīnā² adds to this the fact that with /ḥ/ the point of articulation is less deep in the throat, the opening is narrower and the air-pressure is stronger.

Two more significant points to be added are:

(1) These consonants are generally considered as one of the characteristics of the Semitic languages, where they play a major role in the syntax of each.³ Nevertheless, varieties of the uvulars are found in some other languages. For instance the Scottish /ch/ in 'loch', the Spanish /j/ in 'jabón', and the Russian /x/ are all a variety of the Arabic /χ/. Also, the frequent German pronunciation of /g/ in 'wagen' and the Greek /γ/ are a variety of the Arabic /ġ/.

(2) These consonants are interchangeable with one another in CA, due to the approximation in their places of articulation. Abū ʕalī al-Fārisī - professor of Ibn Jinnī - is quoted to have regarded this as the general basis on which sounds are interchangeable.⁵

¹ Ibid., p.29.

² op.cit., pp.36-7.

³ Anṣ, op.cit., p.70.

⁴ Cf. The Principles of IPA, p.12.

⁵ Ibn Jinnī, op.cit., p.197.

/χ/ and /ġ/ are sometimes, though not very frequently, interchangeable in CA, e.g. /χaṭar/ and /ġaṭar/ 'to prance'. Also /ʕ/ is rarely interchangeable with /ḥ/ and /ġ/, e.g. /ʕattā/ and /ḥattā/ 'until', /maḡiġ/ and /maḡiʕ/ 'eatable'.

/ḥ/ is said not to interchange with any other sound. But still, irregular cases are cited as poetic (i.e. rhythmic) necessities, e.g. /manfūḥ/ and /manfūχ/ 'blown', /sinḥ/ and /sinχ/ 'origin'. Also /χ/ is said to be uninterchangeable, and thus /χamaṣ/ and /ḥamaṣ/ 'hollow' were considered as two different words, i.e. related to different roots.¹ But nonetheless, the approximation of the places of articulation here could be considered in terms of the positional occurrence of the two consonants being identical in the two cited words.

2.1.9 SECONDARY CONSONANTS

Both Sībawayhi and Ibn Jinnī recognize a 'secondary' division of the speech sounds which they call ḥurūf furūʕ, i.e. offshoots or derived forms, originating in the twenty-nine (including /ā/ 'ʔalif') 'basic' Arabic letters which they call 'ḥurūf ʔuṣūl'.² Some of these 'ḥurūf furūʕ' may suggest an early existence of some of the phonemes or allophones that we usually tend to consider as a

¹ Ibid., pp.196,199.

² 'Secondary consonants' here should not be confused with the technical term 'secondary phoneme' (i.e. prosodic feature).

later development in the Arabic sounds of speech.

Sībawayhi and Ibn Jinnī were both imprecise in their descriptions of these 'secondary sounds'. This is, of course, due to the 'secondary' status given to those 'ḥurūf', which recedes even more in the case of the ones that are discouraged in the cantillation of Qurʾān and poetry, and which were almost left without description. In other words, these 'secondary sounds' were again divided into two varieties:*

(a) The sounds of which the usage is tolerable in the Qurʾān and poetry recitation:

1. The slight[ly nasalized] (n) - al-nūn al-ḫafīfah.
2. The (?) halfway articulated - al-hamzah al-latī bayna bayna.
3. The (ā) articulated with sharp oblique - (i.e. the lower-mid unrounded (ɛ)) - al-alif al-latī tumāl imālah šadīdah.
4. The (š) which sounds like /j/ - al-šīn al-latī ka-al-jīm.
5. The (ṣ) which sounds like /z/ - al-ṣād al-latī ka-al-zāy.
6. The (ā) of Ḥijāzi dialect (i.e. the lower-mid back rounded (ɔ)) - alif al-tafḫīm yaʿnī bi-luġat ahl al-Ḥijāz fī qawlihim as-ṣalāt.

(b) The sounds of which the usage is discouraged therein:

* In both varieties, we follow Semaan's translation of Sībawayhi's description, because Ibn Jinnī's description is almost nothing but a summary of the former. See Linguistics in the Middle Ages, pp.40-41.

1. (k) pronounced like /g/ - b^ae_yn al-j_tm wa-al-kāf.
2. (j) pronounced like /k/.
3. (j) pronounced like /š/.
4. (ḍ) pronounced like /d/ - al-ḍād al-ḍaṣṭfah.
5. (ṣ) pronounced like /s/.
6. (ṭ) pronounced like /t/.
7. (ḏ) pronounced like /θ/.
8. (b) pronounced like /f/. [in Ibn Jinn¹: (b) pronounced like /m/.]

Ibn S¹na¹ was more precise in his descriptions of these 'secondary sounds'; with some differences here and there, which include sometimes the omission or addition of entire sounds, and which may sometimes prove to be of serious significance in the quality measures of these sounds if compared to the descriptions we have here. But at any rate we are not required to go into details about it, as it is feasible, whenever one or the other of these sounds is needed in our analysis, for its description to be brought forward to account for the point encountered there.

For instance, we could imagine a case of an assimilative process, where a word ending with, say, /z/ is followed by another word with the initial /z/. If when consulting the lexicon we could not find the word with the initial /z/, but we found a word of the

¹ op.cit., pp.51-55.

same form and meaning with the initial ś , this cannot be interpreted as an assimilation of /ś/ with /z/ , because /ś/ is voiceless. But when we realize the existence of an Arabic 'secondary' sound which is, according to Ibn Sīnā¹

"... a /ś/ produced by bringing the tongue close to the roof of the mouth opening, and causing its (tongue's) surface to vibrate and inducing the whispering sound therein. (This sound of speech) begins as a /ś/ at the mid area of the tongue and ends as /z/ at the tongue's tip"

- when we realize the existence of this /z/ type of /ś/ , then there is the possibility that this initial /ś/ was originally that kind of (inbetween /z/-/ś/) sound which was, in all expectations, a voiced one. And at that early time, a progressive assimilation process took place and gave us this odd word (with the initial /z/) which is nonexistent in the lexicon.

This in all would mean that the initial /ś/ of the word actually existing in the lexicon is but a later development of that z-like sound. Such a case would possibly require the description of that sound being brought forward at such a point.

¹ Risālāh, pp.52-3.

2.2 THE VOWEL SYSTEM

For expository purposes it might be more convenient to lay at the outset the phonological chart for the Arabic vowel system as follows:

TABLE 2.B THE ARABIC VOWEL SYSTEM

	FRONT				CENTRAL				BACK			
	Round		Spread		Round		Spread		Round		Spread	
	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long	Short	Long
Close			i	ī		ɨ		ɤ	u	ū		
Half-close			e	ē						ō		
Half-open			ɛ									
Open			a	ā							ɒ	

2.2.1 CLASSIFICATION

The reasons for which a short discussion of the consonant system of Arabic was needed here apply equally well to the Arabic vowel system. For instance, the vowel harmony with subsequent elision which

produces /kilma/ from /kalima/ 'word',¹ and the assimilative process which produces the vowel harmony in /minhimi/ from /minhumu/ 'from them' in Rabīʿa dialects,² are only accountable for if we apprehend the real nature of the vowels involved. These are examples for the fact that some morphological processes, such as assimilation, apply to the vocalic patterns as well as the consonantal.

So far as vowels are concerned, it is difficult, if not impossible, to identify exactly the Arabic vowels in use during or before the days of the old Arab phoneticians, because the information they gave about the vowels consisted, unlike the case with consonants, of only scanty references, casually scattered, lacking the most needed element in the description of vowels, viz. the exact tongue position. Perhaps the only remarks that may have some weight in this respect, are the observations made by Sībawayhi on the /a/ sound as the most open vowel, compared to the lip compressed /u/ and the tongue elevated /i/.³

It is important to note here that this minor position given to the vowels corresponds to an equally minor position in the way they are written. In the Arabic script, the device to indicate short vowels is marks that look like appendages above or below the writing line, not as parts of the real body. As for the signs

¹ Ibn Jinnī, al-ḥaṣāʾis, vol.i, p.25.

² Sībawayhi, al-kitāb, 2, 321.

³ Op.cit., 2, pp.454f.

indicating the long vowels (alif, wāw, yā?), although they are part of the line, still a factual confusion is occasionally caused by their dual role as signs for consonants as well as for vowels.

So, vowels have always been treated by the traditional Arab scholars as an accidental quality in the Arabic writing. Consonants are the lasting elements that caught all their attention. This attitude has been interpreted within the Arabic scholarship by Ibn Jinn̄. But before we come to this interpretation, the matter may be generally assessed in terms of the earliest known forms of Semitic writing, or, say, the origin of the Semitic alphabet.

The fact that Egyptian and Phoenician are the sole early forms of writing that represent only the consonants, omitting vowels, is taken as an indicative of the Egyptian being the basis on which the Phoenician alphabet has been modelled. This is because the omission of vowels in the Egyptian system is inherent in a method of pictography that lasted till a relatively late stage.¹ However, Phoenician transmitted this practice to the rest of the Semitic languages, which found it tolerable, as the vowels in them are not essential, but means of modifications in the meaning of the root. So, Arabic (i.e. the Arabic script which originates in Aramaic or rather Nabataean)² as well as Hebrew, practised this omission in

¹ Driver, G.R., Semitic Writing, from Pictograph to Alphabet, published for the British Academy, revised ed., OUP, London 1954, pp.137-8.

² See Moscati, op.cit., p.52.

simple texts, but later some difficulties occasionally arose.

Hence, Arabic and

"All the Semitic languages therefore were driven in course of time to devise various means of obviating this difficulty, such as the use of half-consonants (' , h, w, y) to indicate long vowels and ultimately also points above or below the line to indicate short vowels".¹

In Arabic, this system of symbols was introduced in the late ninth century A.D.²

Turning now to Ibn Jinn³ to see what the Arab grammarians have to add to this explanation, we come across a great deal of material presented by Ibn Jinn³ in order to justify the minor position given to the vowels as compared to the consonant. But the first thing that strikes us is the fact that those grammarians have also regarded the short vowels as parts of the approximants - or what is called above 'half-consonants' - (/w/, /y/ and alif /ā/), i.e. the difference between the two categories is only a difference in quantity, not in quality. In other words 'the place and manner of articulation' is the same in both cases.

¹ Driver, op.cit., p.137. Whether an Indo-European influence is involved here, is not confirmed, but at any rate "The Ethiopic method of indicating the vowels by modifying the signs for the consonants is said to be due to Indian influence", [Driver, op.cit., pp.137,238.]

² Moscati, loc.cit.

³ See: Sirr Šinaʿat al-ʿiṣrāb, 1, pp.32-8.

That is what Ibn Jinn¹ means when he says

"Have knowledge, that the /ḥarakāt/ (short vowels) are portions of the letters of prolongation and softness, i.e. the alif '/ā/', the wāw '/w/', and the yā? '/y/'. As those letters are three, so the ḥarakāt are also three, i.e. the fatha '/a/', the kasra '/i/' and the ḍamma '/u/'. Early grammarians - may the Lord bless them - used to call the fatha 'the small alif', the kasra 'the small yā?' and the ḍamma 'the small wāw' The evidence denoting that these ḥarakāt are portions of these letters is the fact that once you prolong one of them, the letter of which it is a portion immediately follows."

Thus, the consideration of vowels as secondary to consonants in significance, is interpretable here as a question of roots and offshoots. But a major point in this quotation is the specification of the number of vowels acknowledged by the old grammarians in CA, which is three short vowels expandable to another three long ones, i.e. six in all.

It is interesting to note here that Arabic represents in this an exact reflection of the proto-semitic vowel system, which possesses the same number and quality of vowels as Arabic, apart from the open back /ɑ/, i.e. IPA /ɑ/, which is a close retracted variety of the open front /a/ in Arabic. Yet, this exception is disregarded by some who take the Arabic one to be an /ɑ/ too.²

¹ Ibid., pp.19-20; Cf. An¹s, op.cit., pp.38-9.

² Moscati, op.cit., p.46; Cf. Rabin, Ancient West-Arabian, p.105; Krámský, op.cit., pp.236-37.

But what appears to be a kind of contradiction with the notion in the penultimate paragraph, is the fact that the Arab grammarians usually postulate short vowels (harakāt) before the long vowels, in words like /qitāl/ 'fight', /kaθūf/ 'thick', /ʕaṭūf/ 'kind'. They claim the existence of 'fathā' /a/, 'kasra' /i/, and 'ḍamma' /u/, before the respective long vowels (ā, ī, ū) in these words.¹ Such a mistaken assumption is explicable only as an effect of the developed Arabic script, which usually imposes such signs in such places to keep - I believe - the pattern of covering all the letters with signs. Ibn Jinn² presents an example of this trend, as he claims the existence of a kind of vowel between /a/ and /u/ (fathā mumāla naḥw ad-ḍamm) before the long emphatic vowel (alif al-tafḫīm) in the word /ṣalāt/ 'prayers'. What he is actually referring to here may be, in modern terms, a prolonged variant of the back open vowel /ɑ/, or the back half-close /o/.

This brings us to the comparison between the Arabic vowels and their cardinal equivalents in the IPA notation. Gairdner seems to be suggesting different tongue positions for both /a/ and /ɑ/ from their equivalent cardinal ones.³ The short vowel called 'fathāh' is not exactly an /a/ sound, though it is

¹ See Sirr Ṣināʿat al-ʿiṣrāb, 1, pp.58-9.

² Ibid., p.59.

³ The Phonetics of Arabic, p.38.

an approximation to that. It is generally regarded as a close and retracted variety of cardinal /a/, nearer to the sound represented in the IPA notation by /æ/.¹ In the neighbourhood of the velarized (emphatic) consonants /ṭ, ḍ, ṣ, ḏ/, the velars /χ, ġ/, the uvular /q/ and the rolled /r/, this short a-vowel is modified into the value of the /a/ [ʌ] type as in English 'bud' or /ɒ/, i.e. the open back spread (or rounded) cardinal /a,^ɒ/. This rule applies to CA as well as colloquial.² The fact that the influence of these consonants "on adjoining vowels was stronger in the east than in the Ḥijāz dialect"³ should have no effect on this case, as CA takes up a middle position here. The Arabic 'kasrah' and 'ḍammah' are mostly the same as their equivalents in the IPA notation (i.e. /i/, /u/), except for their dialectal deviations which we shall see later.

As for the exact difference in length between Arabic /a/ and the long vowel /ā/ called 'alif',⁴ - as well as /i/ : /ī/ and /u/ : /ū/ - there is no means of determination as far as CA is concerned, because firstly, as we said, the Arab grammarians have not given as much attention to the vowels as they did to the consonants, and secondly, because the vowels are generally more

¹ Ibid., p.37; Cf. Anṭ's, op.cit., p.42; The Principles of IPA, p.34.

² Gairdner, op.cit., pp.26-8.

³ Rabin, C., Ancient West-Arabian, p.100.

⁴ According to Gairdner [op.cit., p.41], there is no resemblance to the Arabic 'alif' in French, German or English. But "It is heard in the Sudan, e.g. sa:kit 'plain'".

transitional movements than the consonants. They are of a relatively less steady-state frequency. They tend to fluctuate in duration most frequently under the influence of different factors, such as stress, consonant-doubling (gemination), vicinity of emphatic consonants or syllables, being in isolated words, etc.¹ Even "Inside the word, fine degrees of phonetic length can be found as against three in final position (medium, long and very long)".² For all that it is difficult to say that a long CA vowel (e.g. /ā/) is of twice the duration as a short one (i.e. /a/).

This seems to be why Ibn Sīnā³ was rather apologetic in saying that

"Each small vowel (i.e. /a/, /u/ and /i/) is produced during a shorter period of time than the big ones (the long vowels /ā/, /ū/ and /ī/) which are produced (during a period of time the length of which is) twice as much."

He presented this as an assumption preceded by his statement:

"As for the vowels, their conditions seem to escape me."

However, the contemporary measurements for the durations of

¹ Cf. Moscati, op.cit., pp.63-70; Rabin, op.cit., p.135; Gairdner, op.cit., pp.47-51; Blau, Joshua, A Grammar of Christian Arabic, Louvain, 1966, pp.65-6; Ferguson, C.A., 'Review of: Manuel élémentaire d'arabe orientale (Parler de Damas), by J. Cantineau and V. Helbaoui, Language, 30 (1954) 564-70, p.568.

² Cantineau, J., 'The Phonemic system of Damascus Arabic', Word, 12 (1956) 116-124, p.121.

³ Op.cit., p.49.

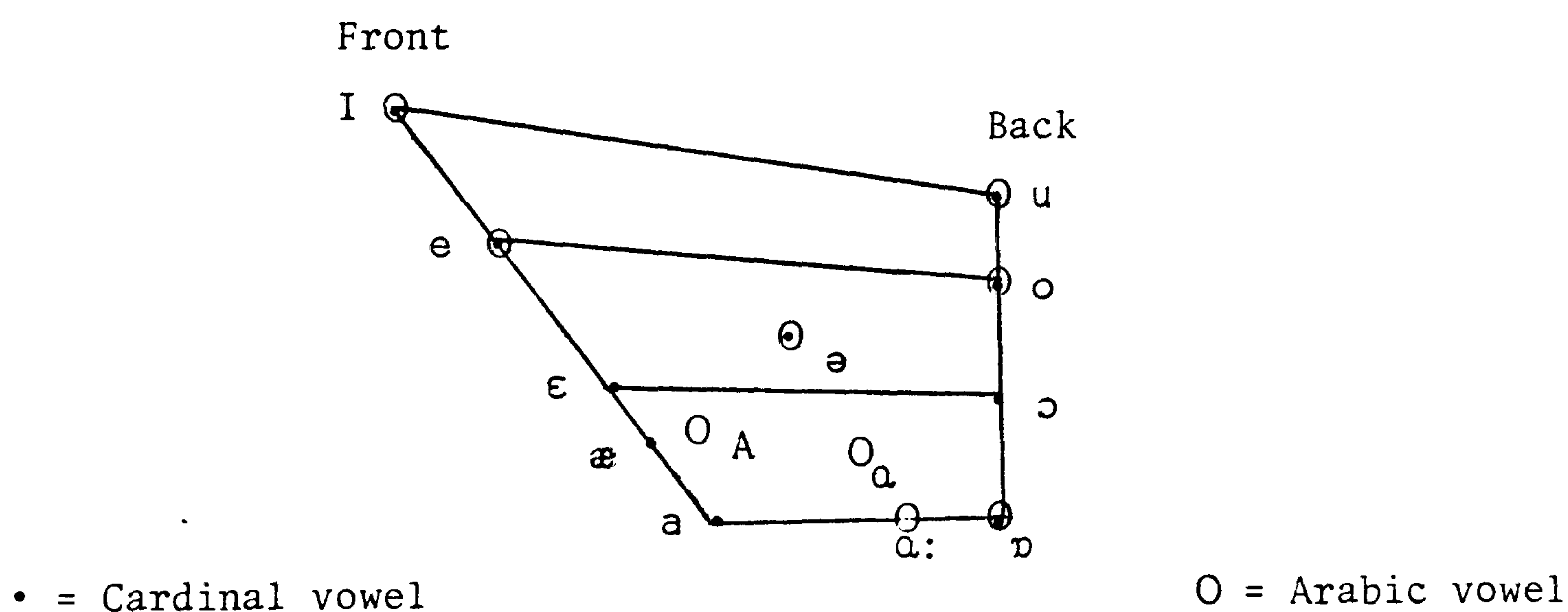
vowels of the contemporary Arabic dialects,¹ could always be a reasonable general guide to the general nature of the classical vowels.

2.2.2 VOWEL DIVERGENCES

Cases of dialectal deviations in the vowel system of CA are numerous,² but the major ones are perhaps those which we have included in the vowel section of the phonological chart, and the following remarks are intended to clarify and contribute to their identification.

For a working introduction, it would perhaps be better to follow Semaan in quoting the vowel scheme given in Gairdner's 'phonetics of Arabic',³ where the three basic vowels - just as recognized by Ibn Sīnā - are shown in capital letters for convenience.

FIGURE 2.A CARDINAL AND ARABIC VOWELS



¹ See Obrecht, op.cit., p.29; Anṭ's, op.cit., pp.104-105.

² See Ibn Jinnī, op.cit., pp.58-63, for the various divergences from the three main Arabic vowels.

³ p.38; Cf. Semaan, Linguistics in the Middle Ages, pp.57-8; Ibn Sīnā, Risālah, pp.48-9.

(1) The Tafḫīm vowel: That is the 'signification' of 'alif' /ā/ by inclining its pronunciation towards the place of utterance of 'wāw' /w/, or the pronunciation of /ā/ as /ō/. This is believed to have been an early feature of a belt stretching over a wide variety of Semitic languages - from Ḥaḍramawt via Yeman ... to Western Syriac.

"The fact that Egyptian, which is contiguous to this area, had the same feature, suggests that it is an archaism dating from some stage of Hamito-semitic development."¹

But as far as CA is concerned, alif-al-tafḫīm could be - according to the authorities' description² - any of the cardinal vowels /a, o, u/ prolonged. Because it has affinities with the positions of both /a/ and /u/, nothing specific in its traditional description would help towards the determination of any of these as the identical one. Rabin chooses the symbol /ā/, but the fact that its occurrence is "sometimes conditioned by the neighbourhood of emphatic consonants",³ or in another opinion even regularly conditioned by the vicinity of the emphatics,⁴ makes the prolonged cardinal /ō/ a better option, as being closer to velarization. In addition to this there is the fact that even in the very limited number of cases where it is said to occur "ʔalif at-tafḫīm, was not only permissible, but was indicated in

¹ Rabin, C., 'The origin of the subdivisions of Semitic', p.109.

² See Sirr Ṣināʿat al-ʔiṣrāb, 1, p.56.

³ Moscati, op.cit., p.53.

⁴ Rabin, Ancient West-Arabian, p.121.

old codices by writing wāw instead of ʔalif",¹

"... suggesting an original 'wāw' in certain words where long 'a' had in general use supplanted the 'u' sound; e.g. in 'salāt' originally 'salāwa', and 'zakāt' originally 'zakāwa'."²

This practice, however, is more in accordance with the IPA advice.³

(2) The ʔiśmām vowel: The most uncertain and difficult to account for among the vowel divergences of Arabic is perhaps the variant known as 'ʔiśmām', which is a kind of prolonged vowel, placed by the Arab grammarians between the cardinals /i/ and /u/ (kasr, or yāʔ bi-ʔiśmām aḍ-ḍamm).⁴ This vowel is attributed to the dialects of Qays and part of ʔasad, and the examples mostly cited for illustration are the passive perfects /q̄l̄a/ 'was said' and /b̄l̄ʔa/ 'was sold', of which the vowel /ṭ̄/ is changed at utterance into this kind of 'in between vowel' of Qays. This is different from the practice of the dialects of Tamīm, Faq̄as and Dabr which change the vowel /ṭ̄/ in such examples into the ordinary /ū/.

Measured in modern terms, this ʔiśmām vowel might be regarded as having the same features as the central spread vowel,

¹ Ibid., p.105, and see pp.98,111.

² Gairdner, 'The Arab phoneticians', p.256.

³ See 'The Principles of IPA', p.7.

⁴ See Rabin, op.cit., pp.119,159; Cf. Ibn Jinn̄, op.cit., p.59.

positioned between /i/ and /u/ and given the symbol /ɨ/ of the IPA notation, with the Russian /ɨ/ in 'c̄ɨH' as an example.¹ The only difference is that the Arabic vowel is a prolonged variant for which we could give the symbol /ī/.

Another version of 'ʔiṣmām' is the reverse of the first one, i.e. (ḍamm bi-ʔiṣmām al-kasr). This is again of more or less the same features as the first one, with the 'lip rounding' being the sole difference, i.e. it is the central rounded vowel, positioned between /i/ and /u/ and given the symbol /ʊ/, with the frequent pronunciation of /oo/ in Scotland as an example. Again, in Arabic, this is a long vowel for which the symbol /ū/ would match that of the first 'ʔiṣmām'. The Arabic examples for this are /maʕṣūr/ 'scared' and /manqūr/ 'defamed'.² Perhaps still we need what Ibn Jinnī³ noticed when he states "A clarifying mouth to mouth speech is necessary in order to perform, to make distinct to hearing, and to reveal the secrecy of this [sound] and the like".

In fact there is a third way of pronouncing this sound of 'ʔiṣmām' closer to the second one. But these last two seem to be more difficult to distinguish, or as Gairdner⁴ puts it

¹ See The Principles of IPA, pp.6,9. In fact, the French vowel /e/ in /de/ may not be very far away from this Arabic sound.
² Ibn Jinnī, op.cit., pp.59,61; Cf. Principles of IPA, pp.6,9.
³ Sirr Ṣinaʕat al-ʔiṣrāb, 1, p.60.
⁴ Op.cit., p.252.

"The other two ways are not very clear from the description of them, but seem to point to a diphthong or two consecutive vowels, which, ordinarily, are impossible in Arabic. Thus quila, or quīla."

The three ways are described together as:

"... compressing the lips (a) while pronouncing the F (i.e. the first radical), so that its vowel is between the vowels of Ḍamm and Kasr, which is the well-known, notorious [way], used in reading [the Kur]; (b) while making the Kasra of the F pure; (c) a little before pronouncing the Kasra of the F."¹

These delicate distinctions have, however, resulted in, or should we say have been the result of, a wide range of propositions about the right definition of 'ʔiśmām', and this in itself reflects the complexity of the nature of this sound, even among the classical Arab grammarians and by their own standards.

(3) The ʔimālah vowel: Amongst those Arabic dialectal variations, /ʔimāla/ 'deflection' (pronunciation of /a/ as /e/) is the one that seems to have captured most of the attention of the traditional authorities, particularly those whose main concern was the 'tajwīd'. Whether proto-Semitic had once possessed this additional phoneme as part of its vowel-system or not, "has been the subject of violent discussion". But on the whole the existence of its long form /ē/ is confirmed there. Also, evidences

¹ Howell, Arabic Grammar, IV, 1, 1479.

of words like the Biblical Aramaic /rēm/ 'became high', and the Hebrew /nēr/ 'light', point to the existence of /ē/ vowel in these two languages.¹ This could be of particular significance, if we raise the question whether this sound has developed locally in Arabic or it has had its historical background. It is said that "the proto-Semitic vowel system has an exact reflection in that of Arabic".²

However, 'ʔimāla' is generally defined in conventional terms as "taking the fatha towards Kasra (Aud), so that the fatha imbibes something of the sound of Kasra".³ It is considered - by the Qurraʔ (recitationists of Qurʔān) - as a salient feature of the dialects of Najd-tribes, such as Tamīm, Qays and ʔasad,⁴ where it was sometimes phonologically conditioned, e.g. it was prevented in the neighbourhood of an emphatic or a uvular consonant.⁵ But still, it seems to have been used occasionally by some people in other areas, such as Ḥijāz, where it is expected not to occur at all. "The people of Al-Ḥijāz do not practise Imāla",⁶ and the Ḥijāz: /ā/ is described as "the pure sounding of the ʔalif" or 'tafḫīm'. Yet, some hollow verbs (i.e. verbs with ʔalif as medial of the three radicals) were pronounced in Ḥijāz

¹ Rabin, op.cit., pp.110,114-15; Moscati, op.cit., p.46.

² Moscati, op.cit., p.47.

³ Howell, op.cit., iv, i, p.738, and see here the detailed discussions about ʔimāla in pp.738-71 and/cf. Sībawayhi, 2, pp.279ff.

⁴ Anīs, op.cit., p.41; Cf. Gairdner, 'The Arab Phoneticians', p.255.

⁵ Sībawayhi, 2, p.285.

⁶ Howell, op.cit., iv, i, p.739; Cf. Sībawayhi, 2, pp.279-80.

with ʔimāla, even in cases of neighbouring emphatics and uvulars.¹
Also the Yemenite dialect is said to have had ʔimāla in /nēr/
'fire'.²

As for CA, it generally sides with west-Arabian
dialects, especially in matters of accent,³ and it possesses two
types of 'ʔimāla':

(a) The /e/ vs /ē/ which is a difference of quantity.
They are both known as /ʔimāla', representing a deflection from
an ordinary cardinal /a/ towards the close front /i/.⁴ The first
is exemplified in the Qurʔān by al-Kisāʔ's reading of the word
/raḥmeh/ 'mercy'; and the second by words like /ribē/ 'usury'
and /al-nēsi/ 'the people'.⁵ At any rate, taking /e/ as the
short equivalent of /ē/ is, in a way, only hypothetical, albeit
it is based on the descriptions by Ibn Jinnī and the others.
That is because this is hard to decide even in a contemporary
Arabic dialect,⁶ let alone the case of early Arabic vowels, where
the question of duration is governed - as we have said before -
by many phonological factors.

¹ Rabin, op.cit., pp.105,111; Cf. Lisān al-ʔarab, xx, p.365.

² Rabin, op.cit., p.115; Cf. Lisān al-ʔarab, vii, p.101.

³ Cf. Rabin, op.cit., p.105.

⁴ Ibn Jinnī, op.cit., p.58; Cf. Gairdner, op.cit., p.254.

⁵ Anṯs, op.cit., pp.40-42.

⁶ Blanc, H., Communal Dialects in Baghdad, p.30.

(b) Another kind of 'ʔimāla' is of the same quality, but with somewhat more tendency towards the ordinary /a/. It is referred to as /ʔimāla bayna bayna/ 'in between',¹ in contrast with the first full 'ʔimala /ē/'. It is more or less approximate to the Cardinal /ε/.

2.2.3 DIPHTHONGS

CA is said to have possessed no true diphthongs, albeit the "West-Arabian ai is a true monophonematic diphthong, on a par with the long vowels".² Apart from that, perhaps all that one could say about 'diphthongs' in CA (i.e. /ay/, /aw/ = Gairdner's 'ai, au') is summed up in Gairdner's single paragraph on the subject, that

"The 'ai' and 'au' sounds (in, e.g. kai and law) were not recognized as diphthongs, i.e., compound vowel sounds, by the Arabs, but as 'a' - sounds (faṭḥs) closed by 'y' and 'w' respectively. And, in fact, the Arabic diphthongs do reach the consonantal positions of 'y' and 'w'. Hence the passing vowels of 'i' and 'u' in kaiy and lauw were not noticed."³

However, although diphthongs were not recognized by the Arab phoneticians as such (i.e. as two vowels forming one syllable, in each case; or as combinations of semivowels and

¹ Rabin, op.cit., p.111; Cf. Anṭ's, op.cit., p.42.

² Rabin, op.cit., p.124.

³ Gairdner, op.cit., p.253.

vowels), their presence and the varieties of their positional occurrences in CA may prove, if discussed at length, to be fruitful, especially with the later dialectal developments taken into consideration. In this respect one may involve the concept of syllable in the Arabic ʿarūḍ, 'the study of poetic metres'.

Take, for instance, the disappearance of /w/ of the diphthong /aw/ in the imperfect form of most weak verbs with the initial /w/; what is the phonological explanation for it? The Arab grammarians would traditionally suggest that: the elision of the semivowel (approximants) /w/ (here, it is the closing element of the diphthong /aw/) in the imperfect: /yaʕid < yawʕid/ (from the perfect tense /waʕad/ 'promised') is caused by the positioning of /w/ between its two 'enemies', i.e. the fathā /a/ and the kasra /i/. But we find the same /w/ in a similar position in another derivation of the same root without being elided, viz. /mawʕid/ 'a promise'. Again, the converse of this argument would hold true in examples of the type /yaḍaʕ < yawḍaʕ/ (from the perfect tense /wadaʕ/ 'put'). The /w/ here should be deemed as being in a different position, because it is surrounded by two fathās /a/ - /a/ (i.e. one of its two 'enemies' is missing), but still it is here elided. The question of 'vowel harmony' may occur to one's mind in such cases, but verifying that would go beyond the purpose.

Another point is the dialectal variations over the vowel /a/ which is diphthongized as /ay/ in certain positions. Sībawayhi¹ states that /a/ was sounded /-ay/ in words like /ḥublay/ 'pregnant', /ʔafʔay/ 'adder', in Ḥijāz and some dialects of Qays. In another place² he states that this diphthongization occur in pause generally, without making reference to any particular dialect. Is there any possibility of the 'ʔimāla /ē/' being involved here as an intermediate pronunciation to ease the leap from /a/ to /ay/ by first replacing /ā/ in context, and then becoming /ay/ in pause? Is there any kind of conditions for such changes, or are they non-conditional? What kind of assimilation (regressive, progressive) or reduction could be involved in such examples; or in examples of the type: /ʔayyām < ʔaywām/ 'days', /kayy < kawy/ 'burning'?

A third point is the question of diphthongal correspondence between modern and CA. There is a possibility of cases where these diphthongs have evolved into /ū, ī/, similar to the ancient development attested in Akkadian: /mūtu < mawtu/ 'death', /bītu < baytu/ 'house'.³ But perhaps it is in colloquial rather than in the standard Arabic that this phonological development has its most copious instances. In Sudanese as well as Iraqi Arabic, there are situations where the classical diphthongs were

¹ al-Kitab, 2, 349.

² Ibid., 2, 314.

³ Moscati, op.cit., p.49.

replaced by the long vowels / \bar{o} , \bar{u} /, which is a kind of 'reduction' that seems to have occurred intermittently, at an ancient period, in the various Semitic languages.¹ There are also situations where the colloquial retention of the diphthongs was complete, and other situations where classical and colloquial patterns have coexisted.²

¹ Cf. Moscati, op.cit., pp.54-5.

² Cf. Altoma, op.cit., pp.21-5; Gairdner, The Phonetics of Arabic, pp.45,50; Ferguson, Charles A., 'A Review of Van Wagoner's: Spoken Iraqī Arabic', Word, 7 (1951) 276-79.

III

TERMINOLOGICAL DISTINCTIONS

III

TERMINOLOGICAL DISTINCTIONS

3.0 INTRODUCTION:

Adequacy in the identification and treatment of the various aspects of any particular science requires in the first place the specification of the relevant terminology. Exactness and explicitness in such terminology is, by virtue of the very principles of today's scientific thought, a fundamental requirement for both the production and the integration of the theoretical notions for which the definition of the scientific concepts is an essential component of evolutionary continuity. This factor becomes particularly important when the ability of integration for a given local scientific discipline is intended to be reinforced by means of give and take with other local traditions of the world science.

In this endeavour, the local adaptation of the conceptual^{ua}~~local~~ terminology may sometimes result in major discrepancies with the original connotations, and thus defeat the basic purpose, or otherwise the change may be slight and easily put right. One may think of the latter when considering the number of changes in some of the basic notions and their related terms, such as root, base, stem, pattern, etc. which were brought into the area of Semitic morphology during the last two centuries, as a result of the evolutionary stages of

linguistic research work in Europe and elsewhere.¹

Arabic is one of these Semitic languages that have had their share of this terminological development. Modern works on Arabic linguistics provide a good source for the assessment of this phenomenon. But for the present purpose, we shall restrict our discussion to the identification of those terms that are pertinent to the scope of this work. The relevant terms of traditional Arabic grammar will be evaluated in comparison with what are apparently their corresponding equivalents in modern linguistics, so that they can be, if possible, disambiguated and freed from the controversies surrounding them. It is believed that "whenever the traditional terms are applicable they should be and are most certainly used²."

¹ See Drozdík, Ladislav. 'Towards Defining the Structural Level of the Stem in Arabic', Orientalia Suecana, Uppsala, 16(1967-68), p.85.

² Nida, Eugene A. Morphology: The Descriptive Analysis of Words, 2nd ed. (11th print 1970), University of Michigan Press, p.4.

III.I

S Y N T A X, M O R P H O L O G Y V S. N A Ḥ W, Ṣ A R F

3.1.0 How great is the difference in the linguistic distinctions between the Arabic grammatical divisions of Naḥw and Ṣarf on the one hand, and the grammatical divisions of Syntax and Morphology in modern linguistics on the other? Is it merely a superficial parallelism between Naḥw and Syntax on the one hand, and Ṣarf and Morphology on the other, or is it an absolute correspondence between each two of these terminological pairs, without any reservations, as might appear at first sight? A minute discussion of this question may require more space than is feasible in this chapter, but a general outline of the terminological aspects that could be identifiable with one another in this respect is unavoidable.

3.1.1 SYNTAX vs. MORPHOLOGY:

Although Syntax and Morphology are separate divisions of grammar, as opposed to other fields of linguistics, such as phonology, semantics, etc., the fact that they are interconnected sub-fields makes it more appropriate to start by drawing the dividing line between the two sub-systems, before comparing them to their presumed

equivalents in Arabic grammar.¹

The word Inflection, which is part of the terminology of traditional grammars, seems to be the hinge on which the two terms (syntax and morphology) turn. Morphology (the study of word-forms), is a fairly recent term of modern linguistic works, for what the traditional grammars used to call 'Inflection'.² Being concerned with the variations in the word form, 'Inflection' is mainly a division of 'Morphology', but the fact that the Inflectional variations of the word-form are subject to the 'selectional restrictions' of 'concord' and 'government' in syntax, designate 'Inflection' as a possible division of Syntax.

Thus Morphology, as a level of constructional mechanism between phonology and syntax, deals with the internal structure of words, i.e. with the sequences of the word morphemes. In other words

"morphemic analysis is the operation by which the analyst isolates minimum meaningful elements in the utterances of a language, and decides which occurrences of such elements shall be regarded as occurrences of 'the same' element."³

¹ Cf. Matthews, P.H. 'The Inflectional Component of a Word and Paradigm Grammar', Journal of Linguistics, 1, 2nd part(1965),p.139; Hockett, Charles F. A Course in Modern Linguistics, The Mcmillan Company, New York, 1958 (Reprint 1960), p.177; Dik, S.C. 'Some Critical Remarks on the Treatment of Morphological Structure in Transformational Generative Grammar', Lingua, 18(1967) 352-383, particularly p.353.

² Cf. Palmer, F. Grammar, Penguin Books, 1971 (Reprint 1973), p.53.

³ Hockett, Charles F. 'Problems of Morphemic Analysis', Language, 23(1947) 321-343 (The Same Article in 'Readings in Linguistics: The Development of Descriptive Linguistics in America Since 1925', ed. by M. Joos, Washington, 1957).

The 'sameness of utterance-elements' in this quotation refers to the term 'regularity' which is defined in terms of the actual phonemic realisation of morphemes as

"the requirement that all the varying phonemic shapes of the morph be derivable from a nonfictive (i.e. actually occurring) base form by rules of combination which hold for all similar combinations throughout the language: this is usually called automatic alternation.¹"

Differences in number of alternative forms of a given morpheme, in number of variant morphemes relative to a given base, in cross-boundary relational roles (inflectional), or in other such variations, are matters that may or may not involve other grammatical sub-systems, dependent on the individual language concerned. That is perhaps why Matthews would state that "the morphemes established by a grammar can only be justified as a part of the total description of the language."²

The exponential relations³ of the utterance-elements, within the domain of word-formation, are either Inflectional where the matter of concern is the changes made in the word-form to express its relation to other words of the same utterance, or Derivational where the processes leading to the formation of new words from existing words or roots is the objective.⁴ Thus Morphology comprises both sections: Inflection and Derivation, though in individual cases of

¹ Greenberg, Joseph H. 'A Quantitative Approach to the Morphological Typology', IJAL, 26(1960) 178-194 (p.190).

² Matthews, P.H. 'Recent Developments in Morphology' in New Horizons in Linguistics, ed. by J. Lyons, Penguin Books, 1971, p.114.

³ See Matthews, P.H. Inflectional Morphology, pp.151, 155f, 316-318.

⁴ See Lyons, John. Introduction to Theoretical Linguistics, Cambridge University Press, 1969, p.195.

language analysis one of the two might be more dominant than the other, for one reason or another.

In other words, Morphology as a linguistic subject is more general than the concept of Inflection. In its wider sense, Morphology involves two related dimensions of linguistic analysis: a) the paradigmatic analysis known as Inflectional Morphology, and b) the lexical analysis (analysis of lexical items) known as Derivational Morphology. These two analytic types give Morphology its three areas of concern, i.e. the inventory of morphemes in a language, the hierarchical structure of morphemes within words, and the general morphological systems constituted by the words of a language.¹

To be more explicit, Morphology is concerned with any significant change in the word formation, which is brought about by such means as the addition of affixes (e.g. /rajul → rajulāni/ 'man/two men'/, consonantal or vocalic replacement (e.g. /Samiġ → Sumiġ/ 'heard/was heard'), gemination (e.g. /ġalim - ġallam 'learnt/informed taught'), etc. Such changes of affixation or other occurrences of alteration that are meant "to limit the grammatical functioning of a particular word form"², e.g. case endings, plural endings, adjectival agreements with nouns, and noun agreements with verbal forms. For instance, a verbal form with no plural ending cannot fill the slot following the plural noun, in an Arabic nominal

¹ Cf. Dick, op.cit., p.354.

² Hartmann, R.R.K. and Stork, F.C. Dictionary of Language and Linguistics, Applied Sciences Publishers Ltd., London 1972 (Reprint 1973), p.257.

sentence such as /al-rijālu yaʿmal-ūna/ 'the men work'; b)

Derivational which are all those changes that are not inflectional, e.g. changes for the formation of participles, for relational adjectives, for diminutives, etc. A word-form produced by derivation "has substantially the same grammatical status as the original or base form¹." Derivational affixes often result in changing a form from one word class to another, e.g. from verb to noun (nominalizers as in: player) or vice versa (verbalizers as in: standardize), so that the base and the derived form could be regarded as two different words, rather than two forms of the same word. This feature which changes the external distribution of the resultant forms is considered the major clue for determining which of the changes is derivational or inflectional. Another type of word-formation is sometimes considered as a third independent division of Morphology. That is the composition or compounding, which is generally defined as "the existence of more than one root morpheme in a word²." The Arabic examples for Tarkīb Mazjī 'Synthetic compounding' (e.g. /taʔabbataʕarran/ 'proper name') and Naḥt 'composition' (e.g. /ḥamdalah/ 'said al-ḥamd lil-lāhi: praise be to God') should fit into this division.

However, so far as the two former divisions are concerned, the facts that the change from one class to another does not occur in some cases (e.g. professor - professorship, or /fahim → ʔistafham/

¹ Loc.cit., cf. Hockett, C.F. A Course in Modern Linguistics, pp.240f.

² Greenberg, op.cit., p.186; Cf. Dik, op.cit., p.353.

'understood/enquired'), and that a change in the external distribution is not always a "sufficient evidence to conclude that a given affix is derivational¹," blur the major difference between Inflection and Derivation, and make the distinction between them not always a very clear one. They may functionally overlap, as Inflection may do with Syntax.

Syntax as known, both traditionally and in modern linguistics, has two distinct areas. The first is the one referred to above, which is related to Inflectional Morphology. This area of syntax is concerned with the selectional (grammatical) restrictions which specify the linguistic context for the occurrence of one form of a word rather than the other, e.g. 'takes' and /kānat/, rather than 'take' and /kāna/, should occur respectively in the slots: 'it... more than courage' and '/ma... ummuki/' 'your mother was not'. Thus the morphological existence of the variant forms is governed in terms of occurrence by syntactical contexts. The second area of Syntax, which is almost totally independent from Morphology, is the ordering of words in the sentence. A good example for this syntactical aspect is the difference between 'Bill sees John' vs. 'John sees Bill' or between the Arabic /raʔā Yahyā ʕīsā/ 'Yahyā saw ʕīsā' vs. /raʔā ʕīsā yahyā/ 'ʕīsā saw Yahyā'. It is hardly possible to see any morphological role in such differences which are absolutely matters of syntax. The relational role of syntactical order is, of course, exceptionally significant in the case of 'Isolating Languages',

¹ Elson, B and Pickett V. An Introduction to Morphology and Syntax, Summer Institute of Linguistics, Santa Ana, California 1964 (7th ed. 1972), p.80.

"in which derivational and inflectional morphemes are rare or perhaps do not occur at all¹."

However, although the interconnection and functional overlapping between Syntax and Morphology has so far been shown to be an unavoidable fact, there is still the major distinction which keeps them apart, i.e. "one dealing with what may be called the 'external' the other with the 'internal' characteristics of grammatical words²."

3.1.2 NAHW vs. TASRĪF:

Turning now to the presumable equivalents of these concepts in Arabic, we find Morphology being usually equated with the Arabic term Ṣarf. Now, the first notion that might occur to one's mind in this respect, is the possibility of a historically founded terminological association between the two procedural systems of Ṣarf and Inflection. Is it far fetched to think of relating both of the terms to the Greek grammatical term *klísis*?³ Each of the three *ḥarṣ* terms has the original meaning 'turning away' used to indicate aversion from the original meaning or form of the word. Establishing such a relationship will still leave us with the question: What caused the restriction of both the term ṣarf so as to exclude the

¹ Greenberg, op.cit., p.191; and see Hockett (op.cit., p.181) for the corresponding term 'Analytic Languages'.

² Matthews, 'The Inflectional Component...' (1965), p.139.

³ Cf. Versteegh, C.H.M. Greek Elements in Arabic Linguistic Thinking, E.J. Brill, Leiden 1977, p.66.

Inflectional Processes (as we shall see), and the term Inflection so as to exclude Derivation? Is it a matter of personal attitude on the part of the Coiner, or is it that "the distinction between inflectional affixes and derivational affixes cannot be defined simply, to apply to all languages, and the difference is not always clear in a given language¹," because "any particular language has many problems of its own²"? The following discussion may shed some light on the question.

Apart from Taṣrīf al-Māzinī, al-Munṣif fi Ṣarḥ Taṣrīf al-Māzinī by Ibn Jinnī, al-Taṣrif al-Mulūkī by Ibn Jinnī, Ṣafiyat Ibn al-Hājib and its commentary by al-Radī, most Arabic grammatical works since Kitāb Sībawayhi merge the morphological analyses in their discussions of syntax, and treat morphology as a subsidiary, rather than an independent, subject for which short complementary passages of its major issues are appended at the end. This could be interpreted as a matter of significance assignment, but it is mostly due to the coverage of a great number of the morphological issues within syntax in its indigenous functional sense (of Nahw) among Arab grammarians, who seem to have been thinking of the grammatical complexities of the language as aspects of a single unified discipline, so that "what is not done morphologically has to be done syntactically³."

The Arabic concept of Nahw could be generally defined as

¹ Elson and Pickett, loc.cit.

² Dik, op.cit., p.353.

³ Hockett, A Course in Modern Linguistics, p.180.

*a subject concerned with the change at word-endings and the order of words, which are due to grammatical governing factors, and expressed in positionally determined affixes of specific functions¹. This definition includes ʔiḥrāb 'declension, inflection', its negation Bināʔ, and some other grammatical determinations.

The term Bināʔ simply refers to the stability of word-ending (e.g. /naḥnu/'we', /ʔayna/ 'where') and thus reflects the basic dichotomy of a) al-muḥrabāt 'flexible words' and b) al-mabniyyāt 'inflexible words'. As for ʔiḥrāb which constitutes the basic concept in traditional Arabic grammar, it subsumes the two notions of Case and Mood.² 'Case' in the sense of ʔiḥrāb, represents the highest level in the categorical hierarchy of noun, and is realised in the sum of what is known as ḥarakāt al-ʔiḥrāb 'declensional vowels' which are rafiʕ, naṣb and jarr (xafḍ), i.e. the respective vowels /u/, /a/ and /i/; whereas 'verbal mood' represents the highest level of the categorical hierarchy of verb, and is realised similarly, with the substitution of 'jarr' by jazm (i.e. \emptyset and the addition of the energetic ending /_nna/. Other categories of noun (such as number and gender) and verb (such as number, gender and person) are realised merely as modifiers of these original endings of Case and Mood. In other words, Case and Mood endings are realised in vowel morphemes which are, with respect to other categories, manifested in either consonantal morphemes, vowel morphemes, or morphemic merge of vowels and consonants.

¹ Cf. Ibn Jinnī, al-Munṣif, 1, p.4; Šahīn, A. al-Manhaj al-Šawṭi lil-Binyah al-ʔarabiyyah, Cairo University Press, Cairo 1977, p.25.

² Cf. Versteegh, op.cit., p.63.

The dispute over whether ḍamm, fath, kasr are freely replaceable with rafī, nasb, jarr respectively (as alternative names), or should be called - according to the Baṣrites' view - ḥarakāt al-binā? (concerned with the indeclinable words) as opposed to the latter group which denotes the case endings, is a matter that could be better assessed in a general framework of a comparison between the Baṣrite and the Kūfite grammarians.* But in this connection one wonders whether it would not be possible to think of the two sets - which are also frequently called 'ālamāt (signs of) al-ʔiṣrāb or al-binā? - in terms of morphs and morphemes.

ʔiṣrāb in the sense demonstrated above, plays the role of the selectional restrictions which determine the contextual occurrence of the discrete forms of the word in terms of 'concord and government', as reflected in the long standing dispute over the question of /ʔāmil/ 'governor' in the traditional Arabic grammar. Thus it could be equated with the area of syntax which is interconnected with Inflectional Morphology.

The other area of syntax (i.e. word-order), which is as mentioned basic in the case of isolating languages, is also partly kept in Arabic and its traditional grammar. Examples such as 'innamā yaxśā allāha min ʔibādihi al-ʔulamāʔu'[†] which might be conceived as a

* See Glazer, Sidney (Editor). Manhaj as-sālik fī 'l-Kalām ʔalā Alfiyyat Ibn Mālik, American Oriental Society, New Haven, Connecticut, 1947, (The Introduction pp.xxxviff), for a historical sketch of Native Arabic Grammar.

[†] Glorious Qurʔān: Fāṭir, 28.

construction exhibiting free word-order,¹ and the fact that ʔiʕrāb as the most conservative characteristic of Arabic represents the most dominant concern of traditional Arabic grammar, are possible sources of scepticism towards the role of word-order in Arabic language. Nevertheless, ordering of words occupies a significant place in Arabic grammar (Naḥw). In addition to the common examples such as adjectival phrases (e.g. /ʕālimum ʔamīnun/ 'honest scholar'), genitive (ʔiḍāfah) cases (e.g. /qaṣr al-Maliki/ 'the king's palace'), etc. - where word position is sometimes fixed without the aid of endings - there are significant cases of low frequency where the question of word-order is exceptionally conspicuous, (e.g. the positional fixation of the accusative in /raʔā yaḥyā ʕīsā/ 'yaḥyā saw ʕīsā', and the rule that pronouns should be related to the nearest noun in the construction, e.g. /saʔala Muḥammadan wa ʔaʕtā ʕumara kitābahu/ 'he asked Muhammad and gave ʕumar his book'. To say the least

"order probably always has some value in relating elements even where inflection exists.... order may even be fixed although other means are present to indicate which words are in construction²."

The other grammatical determinations referred to in the above definition of 'Naḥw', are meant to indicate such distinctions as those rendered by the broken plurals (e.g. rajul vs riǧāl 'man/men'), and some gender differences (e.g. ḥasan vs ḥusnā 'good: fem/masc').

¹ See Drozdík, Ladislav. 'Mediaeval Arabic Grammar and Its Influence on Linguistic Theory and Terminology in Contemporary Arab Science', Journal of Maltese Studies, 5 (1968) 70-79, particularly p.72.

² Greenberg, op.cit., p.187.

Such features are more relevant to derivation than to ʿiḥrāb, but still they are treated within the Arabic framework of Naḥw.

On the other hand, all the morphological alterations that take place within the word structure (verb or noun) are treated in Arabic grammar under either of the two terms Ṣarf or taṣrīf. Whether these two terms are synonyms or of two different implications, has always been a matter of disagreement. One gets the impression that the former term is introduced later as a synonym of the latter, and then both were defined as "a science (subject) with rules that identify the various phonemic changes of the word-formation which are not declensional", with a practical sense reflected in the actual processes of the semantically oriented formal alterations of the word structure.¹ This definition seems to have inspired some of the contemporary Arab grammarians to associate it with the term Ṣarf - as a theoretical (ʿilmī) definition - and restricted the term taṣrīf to the practical (ʿamalī) sense.² Otherwise, both Sībawayhi and Ibn Jinnī have used the term taṣrīf for both the theoretical and the practical senses,³ whereas Ibn al-Hāǧib and Ibn Mālik used the term taṣrīf defining it for the first time in its theoretical sense as the subject of their practical works.⁴

¹ Cf. Hamalāwī, Ṣaḥā al-Ṣarf fī fann al-Ṣarf, p.19.

² Cf. Al-Ḥadīthī, K. abniyat al-Ṣarft fī Kitāb Sībawayhi, Al-Nahḍa Bookshop, Baghdad 1965, p.23; Ṣāhīn, op.cit., p.23.

³ See Sībawayhi, Kitāb, 1, p.343; Ibn Jinnī, al-Munṣif, 1, pp.3f.

⁴ Cf. Al-Ḥadīthī, op.cit., p.25.

In a totally different sense the term ṣarf is also used to mean nūnation (tanwīn), and according to this sense nouns are divided into a) munṣarif (fully declinable), i.e. taking the three vowel-endings of ʔiḥrāb transferable to nūnation (-u→un, -a→an, -i→in), and ḡayr munṣarif (partly declinable), i.e. restricted to the two vowel-endings /u/ and /a/, untransferrable to nūnation.¹ But this sense of ṣarf is of course more pertinent to ʔiḥrāb rather than to taṣrīf.

However, to provide a full-scale account of the notions related to these terms is beyond our concern, and it should suffice here to limit ourselves to the demonstration of their role in the word-formational procedures given by Ibn Jinnī, in his work al-Munṣif which represents a major turning point in the disciplinary systematization of this subject.

For expository convenience, it may be better to commence by identifying the four basic terms that will appear in Ibn Jinnī's discussion of the question at issue:

1. luḡah: = philology

2. taṣrīf:

Lexeme

Ṣaḥay 'to endeavour':

Perf. Sing.

Ṣaḥay+a → ṣaḥā

Perf. Plural

Ṣaḥā + ū → Ṣaḥaw

3. iṣṭiqāq:

Lexeme

Ṣaḥay 'to endeavour':

Perfective

Ṣaḥā

Imperfective

ya-Ṣā

Participle

Ṣāḥi

4. qiyās vs. Samāʿ = analogy (Productiveness) vs. hearsay (unproductiveness).

¹ Cf. Sībawayhi; Kitāb, 2, pp.5ff.

For the first term (1), it is sometimes difficult to choose which of the two words 'philology' and 'etymology' as corresponding to the Arabic *ʿilm al-luġah* in the usage of early works of Arab grammarians. '*ʿilm al-luġah*' is mostly used in a very general sense that includes all grammatical fields plus other relevant areas of philosophical and literary nature; And in this sense one tends to equate it with 'philology' which is (according to Oxford Dictionary of English Etymology) the science of language which may include literature and dialectal studies. A more restrictive sense of '*ʿilm al-luġah*', which we come across in such classical works as *al-Ṣāhibī fī fiḥ al-luġah al-ʿarabiyyah* by Ibn Fāris and *al-Xaṣāʾis* by Ibn Jinnī, etc., seems to be restricted to the analytic procedures of word-formation and its semantical association, and thus becomes more related to 'Etymology' as the 'study of origin, formation, and development of words. The latter sense may appear to be more pertinent to the use of the term by Ibn Jinnī which will be discussed below. In a minor sense luġah is sometimes used to mean 'accent' of a formally different version of a word, such as in "..... and this luġah is less frequent in the usage of those who would say *ʿābid* and *ʿālim*."¹ But this last sense is readily detectable without a possible confusion with the other two senses.

As for the second (2) and third (3) terms, they are different in that: whereas the morphological operations in (2) are merely phonemic alterations of the type that makes no change in the formal class of the word, these operations in (3) result in three

¹ Sībawayhi, Kitāb, 2, p.291.

different words of successive derivation. The discussion will reveal the designative role of taṣrīf as a subject covering both types of operations.

The fourth term (4) qiyās as opposed to Samāʿ^C is one of the major issues that used to be at dispute between the two rival schools known in the history of Arabic grammar as the Baṣrites and the Kūfites. It is basically a question of language purity. Unlike Kūfa, "The mother school (Baṣra) became famous for the severity with which it guarded the purity of the language¹." Should the recognised corpus of the Arabic language be restricted to what is recorded by means of hearsay (Samāʿ^C) from the Bedouins, during the reliable ages of language purity (ʿIṣūr al-ʾiḥtijāj), i.e. up to the beginning of the fourth century A.H., or should the recognition include both the urban (ḥaḍarī) and the late introduction of word-forms, so long as they preserve - by means of adaptation (qiyās) - the grammatical features characteristic of the linguistic behaviour of the pure language? The two sides of the question are interpretable in terms of productiveness (qiyāsiyyah) and unproductiveness (samāʿiyyah). The two parallel terms are thus properly defined as having

"a metaprocedural connotation of the adaptability (in the case of qiyās) or the nonadaptability (in the case of Samāʿ^C) of a given lexical unit to the common linguistic pattern of Arabic with no reference to any specific word-formational procedure upon which it happened to be based²."

¹ Glazer, op.cit., p.XXXii

² Drozdík, Ladislav. 'Derivation (Iṣṭiqāq) As Reflected in the Indigenous Arabic Grammar', Zborník Filozofickej Faculty University Komenského, Bratislava, 1(1969) 99-110, p.100.

Brief as they may seem, these definitionsⁱ should suffice for the purpose of elucidating the contextual occurrences^e of the four terms in the following discussion which is mainly based on Ibn Jinni's views relative to the question.

The taṣrīf is considered one of the most complex areas of Arabic grammar, which has always caused confusion among those Arab philologists who made an attempt to deal with it in their writings, no matter how high and perfect the standard of their work is. This applies to almost every book on classical Arabic philology. Traditional Arab scholars gave less attention to taṣrīf, because they were more concerned with the so-called samāʿ^c (hearsay) through which the greater part of the Arabic language was acquired. That is why this area of Arabic studies still needs a great deal of investigation.¹

One of the functions^c of taṣrīf is that it helps towards understanding derivation (Iṣṭiqāq) in Arabic, by providing the criterion (i.e. the canonical form 'mīzān') for distinguishing between roots and affixes. It also performs another function of a similar kind, with respect to analogical formation (qiyās) on which a great proportion of the productive rules of Arabic grammar is based. For instance, the analogical rule that the vowel following such a prefixed /m/ as that of /mirwaha/'fan' should always be /i/ and nothing else, requires taṣrīf for the identification of this prefix.² These functions indicate the important role of taṣrīf in the

¹ Cf. Ibn Jinnī, al-Minṣif, 1, p.3.

² Ibid, p.2.

description of the Arabic language, and draw our attention to the insufficient attention given to it by the early Arab grammarians.¹

Taṣrīf is thus, like Morphology, concerned with the word-formational procedures which determine the morphemic constituents of the word structure. But still there are two differences that appear to exist between the two terms: a) the inflectional affixes mentioned in the above definition are not usually discussed in Arabic grammar as part of taṣrīf, b) taṣrīf carries out its function by means of canonical forms mawāzīn (sing. mīzān), which are statistically determined as patterns (ʔabniyah) of specific number for both noun and verb.² These ʔabniyah are based on a triconsonantal formation (mīzān: $f-\overset{\text{C}}{\text{I}}-l = c_1-c_2-c_3$) whose basic function is to serve as a canonical form in determining positionally the phonemic constituents of the given word, which in turn reflect the formal and semantical relations among the various derivationally related words, in terms of radicals and serviles.³

The structure of the canonical form ($fa\overset{\text{C}}{a}l = c_1\ vc_2\ vc_3$) is devised by Arab grammarians in this particular form, in order to correspond formally to the dominant type of Arabic verbs, which is the triliterals. The three radicals combined with their vocalic pattern are measured against the canonical form ($c_1vc_2vc_3$) in the

¹ Ibid., 1, p.3.

² Al-Ḥadīthī, op.cit., pp.133ff., 377ff.

³ Cf. Mubārak M. Fiqh al-luġah wa Xaṣāʔis al-ʿArabīyyah, Dār al-Fikr al-Ḥadīth, Lebanon 1964, pp.112-115.

same order, e.g. fahim = $c_1 a c_2 i c_3$ 'understood'.¹ Words of more than three radicals, and those whose structures have been subjected to alteration of some kind, are treated as follows:²

(a) In forms other than the triliterals, the added radicals are accommodated by repeating the third element of the canonical form (i.e. c_3) accordingly:

dahraj 'to roll over' p.
 $c_1 a c_2 c_3 a c_4$

jahmariś 'huge'
 $c_1 a c_2 c_3 a c_4 i c_5$

(b) The corresponding canonical element is doubled in cases where a repetition of the radical consonants occur in the word:

qaddam 'to present' p.
 $c_1 a c_2 c_2 a c_3$

Jalbab 'to dress' p.
 $c_1 a c_2 c_3 a c_3$

(c) Epenthetic affixes appear (without alteration) in the canonical form:

mustamiġ 'listener'
 $m u c_1 t a c_2 i c_3$

ʔistafham 'to enquire' p.
 $ʔ i s t a c_1 c_2 a c_3$

(d) The /t/ of the canonical pattern $ʔ i c_1 t a c_2 a c_3$, does not follow the assimilative change in a corresponding word, e.g.

ʔittarab → itṭarab = $i c_1 t a c_2 a c_3$

¹ Cf. Ibn Jinnī, op.cit., 1, pp.11-13; Ḥamalāwī, op.cit., p.21; Al-Ḥadīthī, op.cit., pp.87f.

² Ibn Jinnī, loc. cit.; Ḥamalāwī, op.cit., p.22; Mubārak, op.cit., pp.122-124.

(e) Deletion in word-radicals is identically corresponded to in the canonical forms:

qul 'say'
 قُلْ₁₃

qāḍin 'judge'
 قَاضٍ₁₂

ʿīdah 'promise'
 عِدَاهُ₂₃

(f) Reversal in radical-order is identically corresponded to in the canonical form:

yaʿis → ʿayis = عَاقِبَ₂₁₃

In all these cases the vowels should remain the same in the canonical forms and their corresponding words.

Iṣṭiqāq, on the other hand, is the process of deriving one form of a word from another, to express a new meaning extra to the general sense of the root which they have in common. Forms of such relation would have to be similar in the central meaning, the radicals and the order of these radicals. To quote Abdallah Amin's wording of this definition

"Iṣṭiqāq is the procedure of taking (ʿaxḏ) one word, or more, from another with a formal and semantical correspondence of specific sense between the base (maʿxūḏ minhu) and the derivative form (maʿxūḏ)".¹

The Iṣṭiqāq performs its function through these related forms, either by tracing back each form to its original base, or vice versa.²

¹ Abdallah Amin, Al-Iṣṭiqāq, Cairo 1956, p.1.

² Cf. Sībawayhi, Kitāb, 2, pp.263-265; Ibn Jinnī, op.cit., 1, p.4; Mubārak, op.cit., pp.69f; Šāhīn, op.cit., pp.107f.

This is Iṣṭiqāq in its simple general sense (Iṣṭiqāq ʿāmm or ʿaṣṣar), the sense with which we are concerned in this work. But other types are also introduced in the classical works of Arabic grammar. There is the notion of "al-Iṣṭiqāq al-Akbar" 'the major Derivation', which is said to have been pioneered by Ibn Jinnī, though he himself quotes his professor Al-Fārisī as the inspirer.¹ This type of derivation differs from the former in that it maintains the substantial or radical consonants (maddah ʿaṣliyyah), but not their mode of arrangement. And it produces six permutations (the result of reversing the order of each pair of the radicals with the third), sharing one specific meaning, e.g. the meaning of 'power' in the six forms:

malak - makal - lamak - lakam - kalam - kamal

Similarly, the meaning of 'smoothness and speed' in the permutations of 'q-w-l', and that of 'laborious effort' in those of 'r-k-b'.

A third type is known as al-iṣṭiqāq al-kabīr (literally: the great derivation). According to this type, any group of words that agree in some of their radicals are derivationally related, whether or not the remaining radicals in these words are articulatorily related, e.g.

(naḥaq 'croak'	nahaq 'bray'	zaḥaq) 'cried out'
(nafaḥ 'puffed'	nafaḥ 'breath'	nafaḥ) 'broke loose'

A fourth type is known as al-Iṣṭiqāq al-murakkab

¹ See Mubārak, op.cit., p.109.

(complex derivation), which seems to be referring to the individual derivative word rather than to the process itself, as it means the derivation from a derived word, e.g. /tamaskan/ 'pretended to be poor' as derived from /miskīn/ 'poor' which is itself derived from /sakan/ 'became quiet or still'.

The labels assigned to these different types of derivation are sometimes interchanged or altered altogether, according to the differences in the classificatory systems of contemporary Arab grammarians.¹

3.1.3 CORRELATIONS BETWEEN TASRĪF, IṢTIQĀQ and NAHW:

The correlation between taṣrīf and Iṣtiqāq is seen in the fact that they both have the function of producing one form from another though in different ways. Taṣrīf could, for instance, mould /ḍarab/ into the patterns of the following corresponding words:

jaḥfar	qimaṭr	dirham	ḥalim	ḥaruf
ḍarbab	ḍirabb	ḍirbab	ḍarib	ḍarub

This function of taṣrīf is mostly a matter of training, intended to provide one with the ability to determine the proper patterns for the various derivative words. It is thus a means rather than an end. On the other hand, Iṣtiqāq derives from the same base form the various other forms, such as the following imperfective, active and passive participles: yaḍrib → ḍarib → maḍrūb.

¹ For these different types, see Mubārak, op.cit., pp.85-111; Drozdík, op.cit., pp.99-110.

To see how taṣrīf and Iṣtiqāq overlap functionally, let us take the following groups of words.

	Base form	Word structure		Canonical form (Pattern)
1.	ḍarab ṣafā	ʔiḍṭirāb ʔiṣṭifāʔ	↔	ʔiḥ ₁ tiḥ ₂ āḥ ₃
	manāʕ	manāʕah	↔	ḥaḥāḥah
2.	jāʕ	majāʕah	↔	maḥḥaḥah

It is evident that in group (1) the canonical form is the same for both words, which indicates that they are of the same order of sequential radicals, though their roots look different. The final vowel /a/ of /Ṣafā/ is actually a phonologically conditioned alteration of the radical semivowel /w/. So the root is originally /ṣafaw/ identical to /ḍarab/, and that is why they had the same pattern for their word structures.

In group (2) the structures of the two words look the same, whereas in fact they have different patterns. The difference in the patterns of the two words is due to the difference in the sequences of their roots. The /m/ which appears in both structures is actually radical in the first and additive in the second. This is why it appears only in the second pattern.

Thus, the determination of forms of the two patterns, which is the function of taṣrīf, relies on the determination of forms of roots for the two words, by way of tracing their origin which is the function of Iṣtiqāq.

As for the link between these two processes and syntax,

taṣrīf is said to pertain to syntax more than to philology, whereas the converse is true with ʔiṣṭiqāq.¹ That is why most of the Arabic texts on traditional grammar, which have only a few scattered references to ʔiṣṭiqāq, end up with a section on taṣrīf.

Being concerned with the internal structure of words, taṣrīf is opposed to syntax which - in the Arabic traditional sense - deals with the inflectional changes at the word-endings. Hence, taṣrīf is expected to come first in Arabic grammatical texts in order to tackle the internal structure of words before the treatment of their endings; but due to its complexities, it is always placed at the end so as to be elucidated by the preceding syntactical analysis.²

3.1.4 CONCLUSIONS:

The distinctions that one could possibly draw from this terminological comparison are that:

(1) Nahw has a more general sense than the corresponding concept of syntax. First, it covers both areas of syntax: the selectional restrictions realised inflectionally in terms of concord and government, and the syntactical word-order. Secondly, it exclusively subsumes 'Inflection' as a subsystem of its domain. And thirdly, it includes some non-ʔiṣṭiqāq grammatical determinations, that could be more relevant to word-formatational procedure, such as

¹ Ibn Jinnī, al-Munsif, 1, p.4.

² Cf. Ibid., pp.4f.

that of the broken plural (jam^ʕ al-taksīr).

(2) Inflection, which is a well recognised sub-field of Morphology, is the concern of Naḥw, rather than taṣrīf, in traditional Arabic grammar.

(3) Taṣrif or ṣarf does not correspond exactly as an identical to Morphology. First, taṣrīf excludes totally the Inflectional component of Morphology, as a matter of syntactical (Naḥw) relevance. Secondly, the traditional procedure of analysis in taṣrīf, with its specific canonical forms (mawāzīn), is rather different from the conventional morphemic segmentation in Morphology.

(4) Iṣṭiqāq could be understood as a system identical to Derivation, provided that the types of Iṣṭiqāq other than the general one (i.e. ĩāmm, ṣaġīr or ʔaṣġar) could be interpreted as matters of individual concern with regard to Arabic language.

The final word in this connection is, of course, that such conclusions are meant and expected to help, rather than to retard, a reconstruction of Arabic or, for that matter, any other traditional grammar, according to the conceptional and systematic ideals in modern linguistics.

III.2

M O R P H O L O G I C A L C O N C E P T S

3.2.0 Within the framework of Morphology, the basic terminological concepts are, as is the case with those of other scientific disciplines, bound to be influenced and controlled by the internal creative continuity of the subject, as well as by the development in other scientific branches with which it happened to have had continual resumption of contact. This being so, then the earlier the correspondence of basic terms between morphology and Arabic grammar is established, the better for the evolutionary continuity of the latter. As the terms other than the basic ones could always be contextually identified, the discussion here would be restricted to the relational distinctions of the morphological concepts that represent the keywords in this discipline.

3.2.1 THE MORPHEME:

As an abstract concept, the morpheme is perhaps one of the first terms that occur to one's mind when thinking in terms of the general linguistic theory. Whatever the system of analysis or the language of concern may be, the morpheme could always find one way or another of representation. In this sense, it is undoubtedly expected to apply to the Arabic language. Yet none of the terms in the traditional Arabic grammar seem to correspond to it. Modern

works on Arabic linguistics, have not - to my knowledge - cared to assess this concept within the traditional Arabic framework, though they have used - in passing - the morpheme, in its general sense, in quite a number of their analyses. This attitude may be justifiable on the ground that universality would mean, without specification, the subsumption of all languages. But, on the other hand, one cannot ignore the fact that individual languages have many problems of their own in matters of morphological description,¹ and this may have, of course, some bearing on the definition of some terms. Drozdík says:²

"Unfortunately neither is there a workable agreement in defining these universals in the very recent descriptions of particular Semitic languages."

A most celebrated definition of the morpheme, especially in early American linguistics,³ is the one stated by Bloomfield: "A linguistic form which bears no partial phonetic-semantic resemblance to any other form."⁴ Some linguists, like Nida,⁵ adopted this definition as the most practical one; but others, such as Elson and Pickett,⁶ were rather dissatisfied by the negative phrasing of it, and

¹ Dik. S.C. 'Some Critical Remarks on the Treatment of Morphological Structure in Transformational Generative Grammar', Lingua 18 (1967), 352-383, particularly p.353.

² Drozdík, op.cit., p.87.

³ Cf. Greenberg, 'A Quantative Approach to the Morphological Typology of Language, IJAL 26(1960), 178-194 (see p.185).

⁴ Bloomfield, Leonard. Language, London: George Allen & Unwin Ltd. 1933, reprinted ed. 1969, p.161.

⁵ Nida, op.cit., p.7.

⁶ Benjamin Elson and Velma Pickett, An Introduction to Morphology and Syntax, 7th ed. (Mexico, Summer Institute of Linguistics, 1972), p.7.

so they gave preference to that of Hockett¹" Morphemes are the smallest individually meaningful elements in the utterances of a language."

In general, Bloomfield's definition has been criticised in both its semantical and its formal aspects. As for the former, Bolinger² attributed a good deal of consideration to the role of meaning in the definition of the morpheme. He pointed out two distinct advantages for the criterion of 'potentiality for new combination' which he included in his definition of the morpheme as the "least element that can enter into new combinations". The relevant advantage here is that "it enables us to replace the ill-defined meaning with a measurable fact, the recurring appearance in new environments." For the latter (the formal aspect) Dik³ criticised the criterion of 'similar function or meaning' in the American understanding of the term, for driving the criterion of 'similar form' into the background. Instead he suggests a definition which retains the relation between morphemes and their formal manifestation in morphs. He defines the morphemes as "the smallest elements having either a semantic or a grammatical aspect. They are manifested in morphs, while morphs consist of formal minima⁴." This is a definition that seems to lie between the extremes of the Bloomfieldian, and the later one, i.e. 'the minimal grammatical unit', "to which most

¹ Hockett, Charles F., A Course in Modern Linguistics, New York, The Macmillan Company, 1958; 3rd print 1960, p.123.

² Dwight L. Bolinger, 'On Defining the Morpheme', Word, 4(1948), p.21.

³ Dik, op.cit., p.354.

⁴ Loc. cit.

linguists, in theory, adhere.¹" The morpheme in this late definition is thought of as an abstract concept (not identifiable phonologically),² a matter that seems to have been one of the reasons for which Koutsoudas expressed his objection to the definition presented by Harris, Hockett, Block^h, Nida, Pike and others; suggesting instead the definition - which in his view is more useful to both the theory development and the grammatical analysis - that

"the morpheme is that unit of grammar the arrangement of which is specified by the syntax and the resulting sequences of which are used to predict the physical form of utterances."³

According to this last definition, the idea that Morphology is an independent level of language should be rejected. The morpheme here is contained within the definition: it is a tool to be used to relate the two independent components of grammar - syntax and phonology - "and thus to predict the pronunciation of utterances."⁴

Turning now to the morpheme concept in Arabic, we find-- by way of deduction - that it has been thought of in two different ways. It is in one sense, the whole complexity of the root and its

¹ Lyons, J. Introduction to Theoretical Linguistics, pp.181, 193; Cf. Robins, R.H. General Linguistics: An Introductory Survey, London 1964, p.202; Matthews, P.H. Morphology: An Introduction to the Theory of Word-Structure, Cambridge University Press, 1974, pp.11,78.

² Cf. Matthews, P.H. 'Recent Developments in Morphology' in New Horizons in Linguistics, ed. J. Lyons, Penguin Books 1970 (Reprint 1971) p.98; and Morphology, p.79.

³ Koutsoudas, Andreas. 'The Morpheme Reconsidered', IJAL, 29 (1963) 160-170 (p.169).

⁴ Loc. cit.

vocalic matrix which form the stem.¹ In another sense, this complex unit is regarded as a combination of two interdigitated discontinuous morphemes;² a primary one (the consonantal root expressing the lexical content), and a secondary one (the vowel matrix which qualifies the root; grammatically, semantically, or both together).³ This sense seems to be favoured by Harris as he states that

"in classical Arabic, root fth 'open' and pattern (i)--a - 'command' in iftah ilbaba 'open the door!' In all these environments we always find the sequence of some root plus some pattern; we never find a single morpheme here."⁴

An immediate criticism against the first sense is, of course, the fact that the stem patterns could, and mostly do, comprise more than one morpheme, e.g. /kātib/ 'writer' (the lexical morpheme + the participle 'doer'). For the second sense, one point in favour is the dual morphological role of the 'long vowels and diphthongs' of Arabic (viz ā, ī, ū; w, y). The /w/ and /y/ are in one case treated as positional variants of /u/ and /i/ (at least in the written representation of Arabic) where they are regarded as part of the vocalic pattern, e.g. /fujūr/ 'debauchery', /ʿānīd/ 'obstinate'; but in the other, their consonantal function is secured, where they are

¹ See Altoma, S. The Problem of Diglossia in Arabic, Harvard University Press, 1969, p.31.

² See Schramm, Gene M. 'An Outline of Classical Arabic Verb Structure', Language, 38 (1962) 360-375.

³ Smeaton, B. Hunter. 'Some Problems in the Description of Arabic', WORD, 12(1956) 357-368 (p.362).

⁴ Harris, Zellig S. 'From Morpheme to Utterance', Language, 22(1946) 161-183 (p.166).

regarded as constituent elements of the root morphemes,¹ e.g. /bāʿ = bayāʿ/ 'to sell', /ʿād = ʿawad/ 'to return'.

But on the other hand, how can such a dichotomy of the morpheme concept into a primary and secondary agree with the generally accepted definition of the morpheme as 'a minimal grammatical unit'? Is it logical to speak of a minimal unit consisting of two minimal units? It might be more appropriate to think of the stem as the level at which any complex structure of more than one morpheme should be considered.² Is it true that the vocalic matrix would in many cases express the categories of number, gender, voice, etc., but in others (e.g. /hawāʾ/ 'air') it does not. Thus, when Al-Toma speaks of the Arabic morpheme having stems of interlocking parts,³ it would seem that he actually means the converse of this, i.e. that stems consist of morphemes of interlocking parts.

Another point against the second sense of the term 'morpheme' as applied to Arabic, is the criterion of 'proper meaning' - the meaning assigned by the majority of speakers to a segment taken separately - proposed by Bolinger.⁴ In his view, the 'proper meaning'

¹ Smeaton, op.cit., p.366; cf. Beeston, A.F.L. The Arabic Language Today, Hutchinson & Co. (publishers) Ltd., London 1970, p.32; Greenberg, J.H. 'The Patterning of Root Morphemes in Semitic', WORD, 6(1950) 162-181 (p.136).

² See Longacre, Robert E., Grammar Discovery Procedures, Mouton & Co., The Hague, The Netherlands, 1964, p.76.

³ Altoma, Loc.cit.

⁴ 'On Defining the Morpheme', p.20.

is the determining factor of morphemes, and as it is so intimately connected with freedom, then "freedom rather than form is what marks the morpheme". It is thus the minimum active element. In this connection one would wonder whether the vocalic matrix of, say, /jalas/ 'to sit' has any 'proper meaning' recognised by the majority of the Arabic speakers, bearing in mind that there are nouns of the same pattern, e.g. /qalam/ 'pencil'.

However, it might be possible to think of the complexity of both the root and matrix as 'the minimally identifiable morphemic unit'. This would be more in line with the notion of grammaticality in the definition of morpheme, because neither the Arabic 'root' or its vowel matrix' is by itself a minimal grammatical unit. And that is perhaps why Harris had to make reservation for his above statement by suggesting the consideration of the two elements (root plus some pattern) as a sequence constituting 'an element' "in the utterance structure, calling it, say, verb stem¹."

The advantage of this definition is that it complies with the universal concept of the morpheme, and simultaneously allows for detecting other morphemes in the complexity of a stem or a word.

So far the morpheme has been defined as an abstract grammatical unit. The phonemic realisation of such a unit is generally known as the 'morph'.²

¹ Harris, Loc. cit.

² See Matthews, 'Recent Developments in Morphology', pp.98, 100 and Morphology, p.83.

The distinction between the two concepts was necessary because the same morpheme is sometimes represented by a number of different morphs. But the definition of 'Morphs' as 'segments that are parts of a segmentable word',¹ still raises some problems, such as the question of morphemes that are represented in non-segmentable parts of words, e.g. vowel-replacement in such forms as /kutib/ being the passive voice of /katab/ 'to write'. Perhaps it would be more acceptable to define the 'morphs' as 'the actualisation of morphemes'.² This would allow for the inclusion of any kind of signal representing the morpheme (e.g. suprasegmental marks), segmentable or not, as well as for the 'zero' morph - despite the disputation which surrounds it - which is a kind of substantial representation of "analytic entities without actual or overt exponents".³

The question of 'zero-exponent' or 'zero-formative' in Morphology has been thoroughly discussed in an article by Haas.⁴ But to say the least, the main argument against the 'zero' morph seems to be that it does not sound logical in the distribution of one's data to make the contrasts between the 'presence' of 'nothing' in one form and the 'absence' of 'nothing' in another. The same argument suggests that only the 'zero difference' is the valid concept

¹ Cf. Lyons, op.cit., p.183.

² Greenberg, J.H. 'A Quantitative Approach to the Morphological Typology', IJAL, 26(1960) 178-194 (p.185).

³ Robins, op.cit., pp. 212, 204-205, cf. Matthews, Morphology, pp.79, 133.

⁴ Haas, W. 'Zero in Linguistic Description', in Studies in Linguistic Analysis, Oxford 1957.

here.¹ In another argument only one zero allomorph is tolerated, but setting up a morpheme manifested wholly by zero is not allowed.² However, the notion of a zero allomorph has been the best solution presented for the problem of the representation of non-segmentable morphemes (e.g. plural, men, sheep, etc.) Nothing special about the Arabic morphs is to be added in this respect, except that Arabic may differ from other languages (e.g. English) in the grammatical category (say: gender in Arabic) where the highest degree of zero instances is expected. One more point to be added here is that the syllabic structure is not always in correspondence with the morphemic structure,³ e.g. /ʔistafsar/ (enquired), syllabically /ʔis-taf-sar/ morphemically /ʔista-fsar/.

Another point which relates to the morpheme question is the preceding division between the two morphological aspects: 'inflectional' and 'derivational'. As explained before, the major distinction is that: "Derivation in contrast to inflection produces a form which has substantially the same grammatical status as the original or base form."⁴ Greenberg⁵ speaks of these aspects as part of his exhaustive division of the morphemes into three classes: (i) Root morpheme of which every word must have at least one. Words

¹ See Matthews, Morphology, pp.116-118.

² Longacre, Grammar Discovery Procedures, p.106.

³ Cf. Robins, op.cit., p.202.

⁴ R.R.K. Hartmann and F.C. Stork, Dictionary of Language and Linguistics, Applied Sciences Publishers Ltd., London 1972, p.257. And See: Matthews, 'Recent Developments in Morphology, pp.112-113.

⁵ Greenberg, op.cit., (1960), pp.185,191.

of more than one root are called compound, (ii) derivational morpheme which is the one that establishes with the root "a sequence which may always be substituted for some particular class of single morpheme in all instances without producing a change in the construction," (iii) Inflexional morpheme which is the one that is non-root and non-derivational.

To exemplify this from Arabic, we may take the word /malʕabān/ (two playgrounds):

Root:	lʕb 'play'
Deriv. morph.	ma--a-- 'place of'
Inflec. morph.	-ān 'two'

If we take the two constructions:

- (i) hāḏā malʕab jamīl 'this is a beautiful playground'
- (ii) hāḏān malʕabān jamīlān 'these are two beautiful playgrounds'.

we can see that if we replace 'malʕab' in (i) by any other word of the same class, such as /bayt/ (home), /ḡawb/ (dress), /qalam/ (pencil), this replacement would not require any change in the construction, but in (ii) because of the inflexional morpheme /ān/, the replacement of the identical word by any of these three words would require changing the constituents of the construction into singular forms. The relational difference between /ān/ and each of the three constituents in the construction belongs to the question of freedom and bondage of morphemes, which is readily defined in Morphology.

The relation between 'Root' and 'Base' is generally similar to that between the Arabic terms 'māddah' and 'Binyah'. 'Māddah' is a traditional term used by the Arab grammarians to mean the consonantal constituents of a pattern which appear in the whole set of a paradigm. The 'Binyah' (pl. ?abniyah) - alternatively 'wazn' (pl. ?awzān), 'ṣīgah' (pl. ṣiyaġ) or 'miṣāl' (pl. ?ameilah) - is the whole pattern with its consonantal and vocalic constituents which vary from one theme of a paradigm to another.¹ The relational reference is paradigmatic in the case of 'māddah', but it is thematic in that of 'binyah'. The 'māddah', as the primary lexical item, specifies the general lexical meaning of the whole set of a paradigm, e.g. 'understanding' expressed by /fhm/; and the 'binyah' determines the grammatical role of the various themes of that paradigm, e.g. perfect → /fahim/ (understood), imperfect → /yafham/, active participle → /fāhim/, passive participle → (mafḥūm/ etc.; and so it does with the category of number in nouns. This maddah-binyah structure is applicable to all grammatical classes with some exceptional instances, mostly particles (e.g. preposition /bi/ 'with').²

¹ See Mubarak, M. Fiqh al-Luġah wa Xaṣāʾiṣ al-ʿArabīyyah, Lebanon (Dār al-Fikr Al-ḥadīṯ, 1964) pp.85,112; Ibn Jinnī uses 'miṣāl' (pl. ?ameilah) for pattern almost regularly, but rarely he uses 'binyah' instead. See Al-Munṣif, Vol. 1., pp.18ff, 31.

² This exception is based on the sense of the term 'word' which is going to be defined in this chapter; otherwise the exception is invalid, viz, if we think in terms of general linguistic units then the open syllable /bi/ is regarded as one structure measurable in terms of māddah-binyah. Cf. the syllable structure in: David Abercrombie, Elements of General Phonetics, Edinburgh University Press 1967, pp.39-41.

Turning back to evaluation^e on the relation between 'Root' and 'Base' in the light of the statements above, we find that the opposition between the two terms is based on the phonemic formation of each. The 'root' is purely consonantal (abstracted shape, e.g. /ðhb/ 'to go', though it never occurs independent of its relevant interradical vowels; whereas the 'base' is identifiable with interlaced consonants and vowels,¹ e.g. /ðahab/ 'to go'). This is the sense where they agree with the Arabic terms 'māddah' and 'binyah'. 'Base' differs from 'binyah' in that its consonants are like those of 'root' and 'māddah' all radicals, while the 'binyah'-consonants could partially be non-radical ('additional' Ar. zā'id), depending on the nature of the word formation.

This distinction between 'root' and 'base' is not always recognised as it is. 'Roots' are sometimes defined on a semantical basis as "single morphemes which carry the 'basic meaning' of the word, a root is the core of a word"² with no reference to the structural aspect. Also 'root' is frequently used to mean "the minimum morphemic segment made up of both consonants and vowels." Corresponding to the above base, while 'base' is used by some scholars in the sense of stem (of the first order, which cannot be further divided into smaller units, e.g. ktab-). But the same morphemic segment ('base') is described by other scholars in terms of root. Brockelmann for one, is quoted

¹ Drozdík, op.cit., p.85. See the detailed discussion of the concept 'Base Form' in Chapter V.

² Elson and Pickett, op.cit., p.11, also see Nida, op.cit., pp.82-83, where he suggests (footnote) that "the criterion of meaning needs for its reliability to be substantiated by structural criteria!"

as having adopted this attitude under the influence of the Indo-European linguistics, with a simultaneous attempt to reject and substitute the notion of 'root' with that of 'base'.¹

Again, with reference to Greenberg's criterion $R \succ W$ (R indicating the number of roots and W that of words) Drozdík suggests the possibility of substituting the structural domain of root by that of stem (within the 'R + P' wholes). On this basis he concludes that at the pre-compound level "the R from Greenberg's compound-defining evidence $R - W$ can satisfactorily be replaced by S (stem)."² In fact, this replacement, i.e. "to posit a stem level within the grammatical hierarchy" is deemed necessary in cases of nuclear slots of words being filled with more than one morpheme.³

3.23 STEM Vs. STEM-FORMATIVE:

The notion of 'stem' would fit better in Arabic, replacing that of 'base' which is limited to a single root with its vocalic matrix. 'Stem' and 'root' are used interchangeably to refer to a 'single morpheme', but they differ in that only the 'stem' may consist of several morphemes, functioning as the nucleus of a word.⁴

¹ Drozdík, op.cit., p.86.

² Ibid., pp.88-89; and Cf. Greenberg, (1960), op.cit., p.191.

³ See Elson and Pickett, op.cit., p.79.

⁴ See Elson and Pickett, op.cit., p.11 (Footnote), and Cf. Beeston, The Arabic Language Today, pp.72ff.

It could be a simple stem, a complex stem (derived), or a compound stem (containing two or more roots).¹ For handling the Arabic compounds the notion of 'stem' is considered to be of particular importance "by virtue of its representing the minimum autonomously occurring morphemic segment including both its hierarchically inferior heterogeneous constituent roots and patterns²." By definition the 'stem' is here of the same base-formation, but again with the difference that it has no limits to the number of its morphemic constituents so long as they are representing the nucleus of a word. The pattern of the whole word-formation is then termed 'stem formative' which is the proper equivalent of the Arabic term binyah. Alternatively the term 'pattern' is sometimes used.³

The following is an exemplificatory demonstration of the above notions:

¹ For the different types of stems see: Nida, op.cit., p.83, Elson and Pickett, op.cit., Chapters 10 and 14; Drozdík, op.cit., pp.88ff; Matthews 'Morphology', pp.40-41, 73; Cf. Hilmi, M. Aboul-Fetouh, A Morphological Study of Egyptian Colloquial Arabic, Mouton, The Hague, Paris, 1969, pp.21ff.

² Drozdík, op.cit., p.88.

³ See: Beeston, A.F.L. The Arabic Language Today, p.31.

Table 3A Basic Terms of the Verbal Formation

Stem		Stem Formative	Examples
Root	Pattern		
fhm	cacīc 1 2 3	-a-i-	fahim 'understood'
fhhm	caccac 1 22 3	-a--a-	fahham 'made (another) understand'
fhm	cācīc 1 2 3	-ā-i-	fāhim 'aware of (active participle)'
fhm	-ccūc 12 3	ma--ū-	mafhūm 'understood' (passive participle)'
fhm	-ccac 12 3	?ista--a-	?istafham 'inquired'

Apparently, the morpheme constituents of the stem formative could be singled out of the stem pattern and then described in terms of affixes. Also the descriptive statements about such analysis could take the form: stem formative for the perfective, for the active participle, etc.¹

3.2.4 WORD, LEXEME, KALIMAH:

Words are in one-to-one correspondence with morphemes only in the 'Isolating' languages; otherwise they are different and have to be defined independently. But due to the ambiguity of the term 'word', the definition has always been one of the most

¹ Cf. Matthews, Morphology, pp.74-75.

problematic points in the identification of linguistic terms.

"There is at present no general agreement on this topic. Some deny the validity of the word as a linguistic unit. Others admit it, but deny that it needs to be taken into account in the description of a particular language. Some say the word is definable only for each language in a separate ad hoc fashion."

And on this ground one might seek to compare the definition presented for the Arabic word with that of the word as a general concept in all languages.

The most celebrated of all modern definitions of the word as a general concept is that of Bloomfield: the word is "a minimum free form²", that is, the smallest isolable unit which does not consist entirely of other lesser free forms,³ thus paralleling the morpheme concept as "a least element that can enter into new combinations⁴." Some linguists consider it so convenient and satisfactory a definition that it would be unwise to abandon it, despite the problems that might arise from its application in many languages.⁵ Others, like Longacre,⁶ would reject that definition and "would term minimum free form words only when such forms are

¹ Greenberg (1960), op.cit., pp.191-192, and Cf. Lyons, Introduction, p.206.

² Bloomfield, Language, p.178.

³ Cf. Walter A. Cook, S.J. Introduction to Tagmemic Analysis, Transatlantic Series in Linguistics, Holt, Rinehart and Winston Inc., New York 1969, p.117.

⁴ Bolinger, op.cit., p.21. Greenberg (1960, p.191) says: "Every word must have at least one root morpheme. Hence in a one-morpheme word, that morpheme is necessarily a word."

⁵ See Elson and Pickett, op.cit., p.76, and Cf. Greenberg (1960), op.cit., p.192.

⁶ Grammar Discovery Procedures, p.102.

capable of word-level expansion (e.g. by affixation). Otherwise, minimum free forms are simply roots (e.g. English of, the, there, rather)"¹ In other words, this definition would^{not} subsume units like (let, my, the) which are not capable of standing on their own in ordinary circumstances. Bloomfield² argued that the article 'the' could be accorded word-status because it is in some respects syntactically similar to 'this' and 'that' (corresponding in this sense to the Arabic /al-/ 'lil-ġahd') which are certainly capable of occurring freely in conversation. But this argument is disputed, because the comparative (-er) would then be a word too, as it is functionally equivalent to 'more'.

The grammatical status of the definite article 'the' is perhaps best determined on the criterion 'Internal cohesion of the word' which is interpreted in terms of two other criteria: 'positional mobility' and 'internal stability' (uninterruptability). The fact that only one criterion of these apply to the article 'the', i.e. ^{un}interruptability, makes it more 'word-like', but not so 'fully' a word as those to which all relevant criteria apply.³

However, attempts have been made to define the word on other grounds: potential pause, semantical and phonological. But in each case there was a drawback hindering the universality of

¹ Grammar Discovery Procedures, p.102.

² Language, p.179, and Cf. Matthews, Morphology, p.161.

³ Cf. Lyons, op.cit., pp.202-204.

application:¹

(1) The word is defined as 'any segment of a sentence bounded by successive points at which pausing is possible', but this is regarded as more a procedural help to the identification of the word rather than a theoretical definition.

(2) "A word may be defined as the union of a particular meaning with a particular complex of sounds capable of a particular grammatical employment." This may be true of the words, but it is equally true of entire phrases. In addition there are other objections to semantical definitions in general.²

(3) The accent (stress or pitch or both) as a determining feature of the word (phonological word, i.e. stress groups) applies to many languages, but the very fact that there are exceptions violating the accent rules in these languages denies the accent being a primary feature in the word definition.³ For instance, such units of the French type /dɛzɑ̃fɑ̃/ (des enfants) carry only one accent: the stress on the final syllable; yet the whole piece is a single unit at the phonological level.⁴ The same applies to the Arabic phrase /qadibtāʕ/ (had bought), with a single stress on the final syllable. In other words, the phonological markers are bound to lead to the isolation of units that are not words on other

¹ Ibid., pp.199-205, and Cf. New Horizons, pp.21-22.

² See Palmer, Frank. Grammar, Penguin Books, 1971, pp.44-46.

³ See Lyons, Introduction, pp.205-205, and Cf. Elson and Pickett, op.cit., p.83. and Palmer, op.cit., p.47.

⁴ Cf. Matthews, Morphology, p.166.

grounds, and consequently fail to give a universal definition of the word.¹

The latest attempt to define the word is perhaps that which approaches the word from three different angles and consequently designates it in three different senses to which linguists have long referred, without bothering to distinguish between them.²

(1) The phonological (or 'orthographic') word, referring to the word-form analysable in terms of letters or phonemes.

(2) 'Word' as a lexical abstract unit (or lexeme), referring to a unit which is simultaneously distinct from and manifested by the different members of a paradigmatic set which occur in different inflectional forms according to the sentence rules.

(3) The grammatical word (word proper), referring to the classes and categories of the word (i.e. verbs, nouns, participles, etc.)

As for Arabic, the same preceding discussions about the 'word' as a general concept would apply equally well to the Arabic sense of the word, though the approach of the classical Arab grammarians may be different in some ways. They define the word

¹ Greenberg, (1960), op.cit., p.192.

² Cf. Lyons, Introduction, pp.196ff. and New Horizons, p.21-22, Matthews, Morphology, p.26ff; Palmer, Grammar, pp.41-51.

(al-kalimah) as a 'qawl mufrad', i.e. a 'singular utterance' which is liable to the same criticism as Bloomfield's definition.

The word is said to be divisible into three classes: noun, verb and particle,¹ which implies that the particle (e.g. /min/ 'from') is a word. This position would be open to the same arguments as applied to the English definite article 'the'. In fact, one may see something of such an argument in the attack of Abū Ḥayyān upon the grammatical verse of Ibn Mālik: ʔism wa fiʿl ʕumma ḥarf al-kalim, which divides the word into noun, verb and particle. Abū Ḥayyān objects to the use of the word (ʕumma', which indicates "later on, after a while", to link the particle to the two preceding categories (noun and verb) on the grounds that the term 'division' implies that the three constituents should be of equal status.²

If we were to consider that Ibn Mālik uses the word 'ʕumma' intentionally (rather than merely to fit in his rhyme) in order to imply his dissatisfaction with the 'particle' being defined as a word, one might indeed reject Abū Ḥayyān's criticism and agree with Ibn Mālik's adopting an attitude similar to Bloomfield's attitude to 'the'.

¹ Cf. Wilson Bishai, 'Form and Function in Arabic Syntax', WORD, 21 (1965) 265-269, particularly p.266; Cf. Sibawayhi, Kitāb, 1, p.1.

² See Abū Ḥayyān's commentary to the Alfiyya of Ibn Mālik: Kitāb Manhaj as-sālik Fī 'L-Kalām 'Alā Alfiyyat Ibn Mālik, edited with Introduction by Sidney Glazer, American Oriental Society, New Haven, Connecticut, 1947.

This hypothesis could be justified on the ground of another Arab grammarian's attitude towards the particles. Ibn Jinnī¹ accounts for the omission of particles from his chapter on nouns and verbs by the fact that they cannot be derived from or measured against the word patterns, as they have no recognised origins (roots) from which they could be derived.

Beeston has no hesitation in calling some of the Arabic particles 'words', merely on the basis of their size and functional role. The coordinating functional /wa/ 'and', and the preposition /bi/ 'in/by' are words "for they function in exactly the same way as the coordinating functional /tamma/ 'and later' and the preposition /ʿalā/ 'on', which have a larger phonetic bulk, and which are unquestionably words in Arabic linguistic feeling²." This notion may be in agreement with the Arabic definition of the word as a 'qawl mufrad', but on the other hand it could receive the same preceding criticism against Bloomfield's definition.

However, in view of all the disputation surrounding the definability of the 'word', it should not be surprising to come across some extreme attitudes on the part of linguists who would venture to deny the very existence of the concept of 'word'.

Palmer concludes that

"we shall, perhaps, have to recognise some kind of unit that corresponds closely to the written word and define

¹ Al-Munṣif, Vol. 1, p.7.

² Beeston, op.cit., p.30.

it ultimately in terms of a combination of the features we have been considering, though..... some theorists have decided to do without the word altogether."

¹ Grammar, p.51.

IV

MODELS OF MORPHOLOGICAL
ANALYSIS

IV

MODELS OF MORPHOLOGICAL ANALYSIS

4.0 INTRODUCTION

To analyse a given language morphologically is a matter of variant aspects, upon which the analysts may differ as to where the emphasis should be placed. While one might be interested in the sequential distribution of the various grammatical items, another may seek to establish the mutual relationship of the grammatical elements in extended forms such as words. A third may approach the question in terms of operational processes formalized in a comprehensive manner, or might even be attracted to the historical development of the word-formation and hence approach the question diachronically. Such inclinations in the linguistic attitudes of different grammarians have produced a number of models for morphological analysis. This chapter is intended to feature the distinctive characteristics of these models. But before we do this, we should perhaps try first to see how the morphology of the language to which we are about to apply one of these models has been traditionally tackled.

Arabic is characteristically distinguished by its 'triliteral roots' forming the major part of the lexicon. A sequence of three

consonants represents the core for the variable members of the paradigm, which are formed through affixation, discontinuously in most cases, e.g. /k-t-b/ 'to write', /katab/ 'he wrote', /yaktub/ 'he writes', /katabat/ 'she wrote', /katabtu/ 'I wrote', /ʔaktub/ 'I write', /naktub/ 'we write', etc. This type of word-formation gives Arabic a prominent place among those languages referred to by Robins¹ as languages whose root-form structures have the non-additive alterations as regular parts of their paradigmatic variations, e.g. /s-m-ʕ/ 'to hear': perfective /samiʕ/, passive /sumiʕ/, active participle /samīʕ/ or /sāmiʕ/, verbal noun /samaʕ/, etc., with additive morphemes for the remaining members of the paradigm. Other closely related languages and dialects have the same type of formation, e.g. the semitic group, though it may not be as markedly notable as it is in Arabic.² Sapir³ gives an example from Hebrew as he says: "The method of internal vocalic change is exemplified in: shamar 'he has guarded', shomer 'guarding', shamur 'being guarded', shmor 'to guard'."

It is perhaps for this reason of the regular internal vocalic alterations, that the traditional Arab grammarians used to speak of derivational affixes in terms of patterns rather than in terms of additive morphemes. They would say for instance, that the active and passive participles (verbal adjectives), derived from the first triliteral

¹ Robins, R.H., General Linguistics, An Introductory Survey, London, 1964, pp.211-12.

² Ibid.

³ Sapir, Edward, Language, 1921 (British Edition, Compton Printing Ltd., London, 1970), p.59; Cf. Zellig S. Harris, 'Linguistic Structure of Hebrew', JAOS, 61 (1941) 143-67, particularly pp.156ff.

verbal form, should be of the patterns: $c_1\bar{a}c_2ic_3$ and $mac_1c_2\bar{u}c_3$ (e.g. k-t-b 'to write' kātib, maktūb). Here the whole pattern is taken at a time as a mould whereby the whole word is measured, i.e. the entire word-structure is taken into consideration at the process of affixation, so as to involve vowel alteration or modification simultaneously with the consonantal affixation.

In fact, the early Arab grammarians seem to have adopted the same two types of traditional techniques used by the classical grammarians of the West (i.e. Donatus, Priscian and others of the fourth and sixth-century) for the specification of Latin and Greek word-forms.¹

The first is the analogical technique of 'exemplary paradigms' where paradigms of particular lexemes are taken as exemplars for the set of lexemes in general. According to this type, a learner of Arabic could predict all the new forms of any lexeme, by analogy with the forms of the specific lexeme given. Once he is given the formatives for the paradigmatic set of, say /katab/ 'wrote', then he is expected to work out, by way of analogy, the entire sets of /ḍarab/ 'hit', /qatal/ 'killed', /ṣafaḥ/ 'forgave', etc. with of course, the vocalic variations of the different verbal patterns for perfective vs. imperfective taken into consideration as ~~non~~-lexical properties, e.g./katab→yaktub/, but /ḍarab→yaḍrib/.

¹ Cf. Matthews, Morphology, pp.67-70.

The second type of the traditional technique differs slightly in turning the implicit analogies of the first type into explicit rules to be applied to the different lexemes in order to give the entire set of the paradigmatic themes. The learner, in this case, will be taught that the second singular masculine of the past active /katab/ is formed by adding the suffix /-ta/, and for the feminine by replacing that /-ta/ with /-ti/, etc.

However, in most cases of the traditional technique, the Arab grammarians would implement Canonical forms or patterns of the type ' $c_1ac_2ac_3$ ' as measurements carrying the formatives for the different themes. A rule of this type would say, for instance 'the feminine gender' for any adjective of the pattern $c_1ac_2c_3\bar{a}n$, should take the form $c_1ac_2c_3\bar{a}$, e.g. /ğadbān/ 'angry' /ğadbā/, and so is the case with /sacrān/ 'drunk' /sacrā/,¹ etc.

These traditional techniques, are hard - as one can see in the traditional grammar of Arabic - to comply with the proper sense of adequacy. Redundancy on the one hand, and shortness in the descriptive coverage of all the words of a language on the other, are possible defects in such techniques. The introduction of the morphological models described below was intended to avoid such drawbacks in the attempt to achieve adequacy.

¹ Ibn Qutaiba, Adab-Al-Kātib, E.J. Brill, Leiden 1901, pp.644-45.

IV.1

FEATURES OF THE MAIN MORPHOLOGICAL MODELS

4.1.0 If we turn back to the question of the different linguistic approaches, to see where Arabic morphology could find the most suitable linguistic frame of analysis, we find an option of variant types of theoretical 'models', which have been formulated or adopted by different linguists in their descriptions of the morphological structures relative to their chosen languages. Some of these models have already become well established for one reason or another, and thus dominated the area of morphology, driving the others to the background.

This section will make no attempt to investigate the theoretical details of approaches or models other than the main dominant ones, whose outstanding features will be characterized in reasonable detail.

Three of these 'frames of reference' have already been pointed out by Hockett - in his well-presented article of 1954 - as the best known models of descriptive analysis, within which a linguist could 'approach the grammatical phase of a language and state the results of

his investigation".¹ According to his statement, most of the other models of description seem to cluster about these three archetypes.

To sum up the major distinctions between the three models, one may quote Robins:²

"The salient difference between WP and both the other two models is the centrality it accords to the word as a fundamental unit in the grammar as a whole and as the basic unit of syntactic structure. IA and IP both start from the morpheme as the minimal grammatical element and also the basic syntactic unit, passing through the word as relatively unimportant, and consequently regarding the traditional division between morphology and syntax as unnecessary or even misleading."

"On the other hand, IA stands at a greater distance from WP than does IP in one respect, in that WP is prepared to make use of 'process' as a term in grammatical description."

4.1.1 WORD AND PARADIGM

The first of the three models 'word and paradigm' or (WP) is older and more respectable as being the traditional frame work of Latin, Greek and Sanskrit. Hockett apologised for not giving this model the same consideration he gave to the other two models because of the lack of time. But Matthews devoted some of his articles to the

¹ Hockett, Charles F., 'Two Models of Grammatical Description', Word 10(1954) 210-231.

² Robins, R.H., 'In Defence of WP', Transactions of the Philological Society (1959) 116-144. See pp.118-19, 134.

exposition of this model and he wrote elaborately about it with the other two models in his specialized works on morphology.¹

The main characteristics of this model, in addition to the fact that it takes the word as its central unit, are: firstly, categories of the word are arranged simultaneously (i.e. not sequentially), e.g. neither the stem nor the past tense exponent of, say, /sailed/ is regarded as preceding or following the other. Another way of putting this is to quote Robins:²

"If morphemes are the items that have to be arranged, then clearly something must be found comparable to the -ed of baked in took; but if took is just part of the paradigm of the verb take, no such need arises."

Secondly, exponents of these categories may extend throughout the word-form, and may even overlap when necessary. A good example of this is the English told/sold type, and the Ancient Greek word /elelykete/ 'you had unfastened' as analysed into its formatives.³

Formatives (or markers) are specified by the recurrences in the variant paradigmatic forms, and their places in the paradigm are defined by the morphosyntactic properties such as perfective, past,

¹ See Matthews, P.H., 'Some Concepts in Word-And-Paradigm Morphology', Foundations of Language, 1(1965) 268-289; 'The Inflectional Component of a Word-and-Paradigm Grammar', Journal of Linguistics, 1(1965) 139-171; Inflectional Morphology, Cambridge University Press, 1972, §7.1, §9.1, 9.3.3; Morphology, Cambridge University Press, 1974, Chapters IV, V, VII, VIII, XII.

² 'In Defence of WP', pp.133-34.

³ See Matthews, Morphology, pp.141-43.

indicative, plural, active, etc. But properties and formatives are not always in one-to-one correspondence. A property may be identified partly by one marker, and partly by another. Markers for a given property need not even be next to each other. The property may be identified simultaneously by a prefix and a suffix or an infix.

For instance, the active participle property of /mukrim/ (from the Arabic, /ʔakram/ 'to be generous') is identified by the prefix mu- and the infix -i- at the same time. If we look at the word-form as it appears here in terms of WP, the answer would be both mu- and -i- represent the exponent for the property: active participle. But a further scrutiny of the elements (mu-; -i-) would reveal a process of replacement performed on the verb /ʔakram/ to change the syllable /ʔak/ into /muk/ and the vowel /-a-/ into /-i-/. So the property is identified here by the two processes of replacement in the prefixal as well as in the infixal position. To allow for such an easier explanation of the morphological structure of Arabic in such cases, the overlapping of the two models (WP and IP) seems to be justifiable. This would be in line with Robin's idea that WP is prepared to make use of 'process' as a term.¹

On the other hand, more than one property could be represented by a single marker (or exponent), and this is what is known in WP as 'cumulation'. A good example of 'cumulation' is the person-gender-number representation in the Arabic word-form /ʕarajna/ 'went

¹ In Defence of WP, p.119.

out' (3rd. fem. pl.). The three categories are identified cumulatively by the suffix /-na/. In /Xarajat/ (3rd fem. sing.), the /-t/ is generally thought of in traditional Arabic grammar as a cumulative exponent of the three categories. But I would rather prefer to think of the /-t/ as the marker for gender only. Because a look at the entire set of the paradigm reveals immediately that the vowel /-a/ preceding the suffix /-t/ in this example only exists with the 3rd sing., so it could be in our example a cumulative exponent of these two categorical properties, but 'number' in the duality case for example is represented by a suffixed /-ā/ following that /-t/ (Xarajatā). Hence the /-a/ preceding the /-t/ must be the marker for person only, and the /-t/ marking the gender only. As for the 'number', then, it must be in the case of singularity represented solely by the lexeme itself, with the notion of directionality assigning priority to the singular over the dual and plural. In favour of this, is, of course, the argument supporting 'directionality' being governed by the minimality of processes or operations.¹ Otherwise, one could think of a zero morpheme.

WP has been criticised for being insufficiently general, and for also failing to organise efficiently the facts of languages like Chinese and Vietnamese, whereas the generalization of the morphemic model (IA) has no restrictions.² Also WP has separate sets of lexemes:

¹ Cf. Matthews, Morphology, p.134.

² See Hockett, op.cit. p.210, cf. Matthews, Inflectional Morphology, pp147f.

particles and morphosyntactic properties, and it has two relations; whereas the morphemic model has a single set of morphemes and a single relation which make it simpler. And, "if the morphemic model is at once simpler and more general, it should be preferred".¹ But against this is the rejection of the assumption "that all languages should be described in the same general way",² i.e. it is invalid that the same model of description should be equally applicable to all languages. Besides, the morphemic model (IA) has its weaknesses too, e.g. the case of 'replacives' (run:ran type), being compared to operations rather than to segments, cannot be incorporated in this framework. Also, the problem of 'parasitic' forms (where the realisation of some morphemes is parasitic on that of others) is better tractable by WP.³

4.1.2 ITEM AND PROCESS

The second model is called 'Item and Process' (or IP). The 'Process' terminology seems to have emerged mainly to answer the question of word-form differences which cannot "be readily described in terms of additions of bound forms to roots",⁴ e.g. man:men, fight:fought. The morphological formations are mainly two types: the addition of a basically separate ending (e.g. sail:sailed), and the other which involves an internal vowel change.

¹ Matthews, 'The Inflectional Component of a Word-and-Paradigm Grammar', Journal of Linguistics, 1(1965) p.141.

² Matthews, Morphology, p.120.

³ Matthews, 'The Inflectional Component', pp.142-143.

⁴ Robins, General Linguistics (1964), p.212, and see p.205 for the various solutions suggested.

Some linguists would insist on describing all formations in terms of addition of morphemes, but this generalization would in some cases (e.g. internal changes) diverge from the actual forms of the language. Other linguists were inclined to generalize the term 'process', in order to explain in terms of process both the additive and non-additive variations. In this case, one form of the paradigm is taken as basic, either arbitrarily or because it parallels another root in the language (e.g. take alongside bake), and then the different forms are described as the result of processes such as vowel change, infixation, etc.

Sapir was one of those linguists who used the 'process' terminology in a general sense to include additive formations to which roots are subjected. He says, for instance: "some of these grammatical processes, like suffixing, are exceedingly wide-spread",¹ and in this sense he used 'process' throughout Chapter four of his book. Sapir² had actually arranged the various grammatical processes into six types. Two of these were excluded by Uhlenbeck³ as being either a purely syntactical device (i.e. type (1): word order), or another form of one of the other types (i.e. the accentual differences, which could be placed into the class of 'internal modification'). The four types left are: composition, affixation (addition), internal modification of the radical or grammatical element, and reduplication (repetition).

¹ Edward Sapir, Language, 1921 (British edition, Compton Printing Ltd., London, 1970), p.59.

² Ibid., p.64.

³ E.M. Uhlenbeck, 'Limitations of Morphological Processes, Some Preliminary Remarks', Lingua, 11 (1962) 426-32, p.426.

According to this arrangement 'process' seems to have meant any kind of 'alteration' in the shape of a grammatical unit, and would include all derivational and inflectional formations with all their principal differences summarized by Cook.¹ In fact, even zero markers are allowable as 'processes' in IP.²

"In the IP description there need be no actual or basic segment, as there would be in IA, belonging exclusively to this morpheme as such [or that]."³ So the IP analysis - referring to any kind of 'process' formation - could be based on words (as in WP) or on morphemes (as in IA). This is perhaps the major advantage of (IP) over the other two models. Also it could be the reason why (IP) is thought of as the model with more advantages for the analysis of languages with more complex word structure.⁴ Arabic language, if taken for one, could provide illustrative examples for most types of the processes within the derivand/operand concept.⁵ But in the case of Arabic we need to talk of the operand in the sense of root, as the derivand would be in most cases a result of a process over the whole pattern of the word-form. It will be more economical, of course, to apply the process to a limited

¹ See Walter A. Cook, S.J. Introduction to Tagmeimic Analysis, Transatlantic Series in Linguistics, New York, 1969, pp.119-127; Matthews, 'The Inflectional Component of a Word-and-Paradigm Grammar', p.147.

² See Hockett, 'Two Models of Grammatical Description', p.228.

³ Matthews, Recent Developments in Morphology, p.105.

⁴ Cf. Matthews, Morphology, p.121.

⁵ See ibid., pp.123ff. for the types of morphological processes.

number of radicals (the root-consonants), rather than applying it to an ever changing form or pattern of the word.

However, in adopting the IP one may either take the old view which handlesevery feature by processes deriving word-forms from others, in which case features would be related directly to their grammatical terms: plural, past-tense, etc. by rules of addition (e.g. suffixation) in the regular forms (seas, sailed, etc.), or by rules of replacement (a - e, i - a) in the irregular forms (men, sank, etc.). The two forms are thus analysed in equal ways.

Alternatively one may derive the forms by processes starting from a root; in which case we must postulate a zero operation (whose output is identical with its input) by which we derive present /sail/ from root /sail/ and singular /man/ from the root /man/. This would be perfectly consistant throughout the set of the paradigmatic members, with all the general rules being stated in equal terms with the help of zero formative when needed to be added. The only objection here is that it may not be as economical as it should be. The general aim of linguistic analysis is "to state the observed facts in as economical and consistent a manner as completeness permits".¹ Hence, if it is more economical to take present tense and singular as given, why then should we think of them as being derived forms opposed to past tense and plural.²

¹ Robins, General Linguistics, 1964, p.204; and cf. Matthews, 'Morphology', p.119.

² Cf. Matthews, op.cit. pp.120-22.

The major objection against (IP) is perhaps the historical analogy implicit in it. For instance, saying that 'baked' is formed from 'bake' by a process of suffixation would certainly imply a kind of priority for 'bake' over 'baked' or the suffix.¹ The dissatisfaction with this implicit historicity of (IP) was the cause for the formulation of the third model (IA).

So any denial of the 'historicity' element of (IP) in a given language, would mean the inapplicability of (IP) to that language. And that is what one may gather from what Matthews² was saying when he questioned the directionality of processes in the Arabic forms: /kitāb/ 'book', /kutub/ 'books', /kātib/ 'clerk', /kataba/ 'clerks', /ma-ktūb/ 'written', with the skeleton /k-t-b/ (as for 'write'). He wonders "what would be the direction of the processes in these examples? The practice of specialists would certainly imply that there is none".

But perhaps there is, if we think of the traditional dispute over the derivational basis of the Arabic word-forms: is the priority for the perfective or the verbal noun? Speculation about the origin of derivation was one of the long lasting disputes between the two major schools of the ancient Arab grammarians, viz. the Baṣrans vs. the Kūfans. The perfective form was proposed by the former as the basic form for the derivational processes of the paradigm, and the latter maintained that it is the abstract noun (maṣḍar).³

¹ See Hockett, op.cit. p.211.

² Op.cit. p.131.

³ Cf. Ibn al-Anbārī, al-Inṣāf Fi Masāil al-Khilāf, ed. Abdal-Hamid, Cairo, 1945.

Again, the active and passive participles of the quadrilateral are derived by a process applied - not to the perfective or the skeleton, say, /d-h-r-j/ 'to roll' - but to the imperfective form, i.e. the imperfective pattern should be formed first (/yudahrij/), then to this a process of replacement (/mu-/ replaces /yu-/) is applied to get the active participle; and the passive participle is then formed by the same process plus a change of the vowel /i/ into /-a/. The resultant would be: yudahrij - mudahrij or mudahraj. This, of course, is according to the traditional thinking of the Arab grammarians. But one could think, as well, in terms of, say, the WP and apply directly to the root the operation that produces the active or passive participle. But the point here is that, the notion of directionality or derivational priority was there in the traditional thinking of the Arab grammatical formula. And also it was justified on logical basis, though - unlike English - the Arabic imperfective is (in one viewpoint) derived from the perfective, not the other way round.

4.1.3 ITEM AND ARRANGEMENT

The third and latest model is the one that takes the morpheme (any kind of morpheme) as its basic unit in order to describe the pattern of a given language in terms of morphemes (items) "and the arrangement in which they occur relative to each other in utterances". That is why it has been labelled 'Item and Arrangement' or (IA). It "has been formulated, at least in part, because of a feeling of dissatisfaction with the 'moving-part' or 'historical' analogy implicit in IP".¹

¹ Hockett, Two Models of Grammatical Description, pp.211-12.

But IA also had its criticisms that moved Hockett and others to investigate the possibility of adequacy in alternative models. One example is the violation of segmentability by such word-forms as /sank/ (compared to /thanked/), where the 'past tense' morpheme is indefinable as a recurring segment.¹ Statements like Nida's² "we should consider the overt replacement of the vowels as constituting a morpheme", and Harris's³ "a morphemic segment consisting of the change of /ey/ - /u/ and meaning past. The morpheme sequence take plus /ey/ - /u/ yields took, exactly as walk plus /t/ yields walked", Such statements offer no solution, because they seem to be using the morphemic segment in a general sense; ignoring the phonemic composition of the segments. A point that Hockett⁴ seems to have been referring to when he said "A 'replacive' like '/u/ - /ey/', is not by any stretch of the imagination composed of phonemic material". The alternative solution (viz. /sank/ is the signal for the lexical element + past tense realised by a zero morph) was also criticised effectively by Nida and Haas.⁵

This weakness, in addition to the problem of 'parasitic' forms which we referred to while talking of WP, makes the IA model equally as inadequate as the other two. Robins⁶ says:

¹ Cf. Matthews, Recent Developments in Morphology, pp.99-100.

² Eugene A. Nida, 'The Identification of Morphemes', p.427, Language 24 (1948) 414-41.

³ Harris, Zellig, S., Structural Linguistics, University of Chicago Press, 1951, p.167.

⁴ Op.cit. p.224.

⁵ See Nida, op.cit. pp.415ff., Matthews, 'Recent Developments in Morphology', p.100; and Morphology, pp.117ff.

⁶ In Defense of WP', 'p143; cf. Hockett, op.cit. p.233.

"Of the three models, IA, IP, and WP, no one has as yet been worked out to be equally suitable for every part of a grammatical system in every language, a fact hardly surprising in view of the immense complexity of language."

This, of course, leaves the door open for us to select for every grammatical system of a given language the model best suited, on the basis of compatibility rather than on the assumption of the absolute adequacy of the particular model. As for Arabic, we have already referred to the possibility of the three models being used each at a time when needed to solve the particular problems that could emerge at the various stages of the analysis. One may see no reason why one should not be allowed to use as a general norm, say, the IA which is the latest model; but whenever we are faced with the problem of insegmentability we resort to the processes of IP to solve the problem. And in cases of, say, 'cumulation' the WP could be adopted to settle such a question.

In fact, some modern linguists would support, or at least agree to such a combination of approaches. Koutsoudas,¹ for instance, has no objection to combining the two approaches (IA and IP) within a single description, so far as the description is concerned with a given language. What he objects to is the combination of the two approaches

¹ 'The Morpheme Reconsidered', IJAL, 29(1963) 160-170, particularly p.162.

in constructing a single general linguistic theory, because this would involve the basic theoretical difference between them, which is:¹

(1) For IP: the structure of a language is postulated or inferred from human speech, and this postulation or inference is dependent partly on the empirical data and partly on the ingenuity of the analyst.

(2) For IA: the structure of a language exists in the human speech, and it can be discovered by a mechanical procedure, which requires (a) segmentation of real utterances, (b) one-to-one correspondence between morphs and morphemes, (c) total accountability for the material of that utterance, (d) separation of levels so that units of higher level are determined by those of a lower level, but not vice-versa.

That being so, "it is impossible to construct a single theory which claims that structure both exists and does not exist in the empirical data".²

However, what concerns us in Koutsoudas' argument is its assertion of the validity of the combination of these models in the analyses of individual languages, otherwise it is more relevant to the

¹ Ibid., p.161.

² Ibid., p.162; and see Matthews Inflectional Morphology, p.152, for the three properties of 'A Genuine Theory of Universals'.

question of language-universals,¹ which I have already considered briefly in the introductory chapter, and there seems to be no need here for further elaboration. The specific point of concern here is one of adequacy or appropriateness on which a selection could be based. Which of the three models should be or is the ideal or most appropriate one for the morphological analysis of CA?

4.1.4 WP AS THE APPROPRIATE CHOICE

At first sight, one gets the impression that IA is the most inappropriate one of the three models, for the constructional mechanism of CA. On the other hand, WP appears to be the model most suited to CA, both in terms of the morphemic features and of their formal coordination. Such a choice is sufficiently accounted for in the preceding discussion. Nevertheless, being aware of the observation that, "there is a limit to the degree to which one's fads or prejudices should be allowed to distort the description of a language",² one may choose to qualify one's option through giving prominence to the main significant points in accordance with the previous discussion.

My intention is to apply in the present work the WP model, according to its formalization as a system by Professor P.H. Matthews. This choice is based - in addition to the scientific adequacy with which the setting of the model is systematized - on the following four facts:

¹ Cf. Matthews, Inflectional Morphology, pp.147-156.

² Ibid., p.64.

(1) The mathematical manner in which the grammatical rules of WP are formulated by Matthews, has two advantages: (a) the reliability of the grammatical results obtainable through the system, and (b) the applicability of the system, as a comprehensive formal grammar, to the entire formations of the Arabic language. The final chapter of the present work is, of course, a practical demonstration in the area of the Arabic verbal system.

(2) The concept of word, as previously defined, is central in Arabic grammar, and the word is a basic unit in the Arabic language structure. In other words, Arabic is not one of the languages where the word boundaries cut across the immediate constituents. Therefore, the minor place accorded to the word in IA (compared to the morpheme), as opposed to the centrality that WP accords to the word as a fundamental unit in the grammar as a whole, determines WP as the obvious option for the grammatical analysis of CA.

(3) The grammar of CA displays quite a number of the type of operational rules which specify what Matthews¹ finds more convenient to refer to as Morphological Processes, such as 'infixation' and 'replacement'. Take for instance the forms /kutib/ 'was written' and /kātib/ 'writer'. The two forms are said to be derived from the lexeme /katab/ 'to write' which represents the stem for both forms, and consists of a root plus discontinuous morpheme (aspectual). The

¹ Ibid., p.60.

first form /kutib/ is a construction of a stem plus passive voice, and the second /kātib/ is a construction of a stem plus active participle. This could be represented diagrammatically as follows:

(a) kutib:

Morphemic Representation: katab + Passive Voice

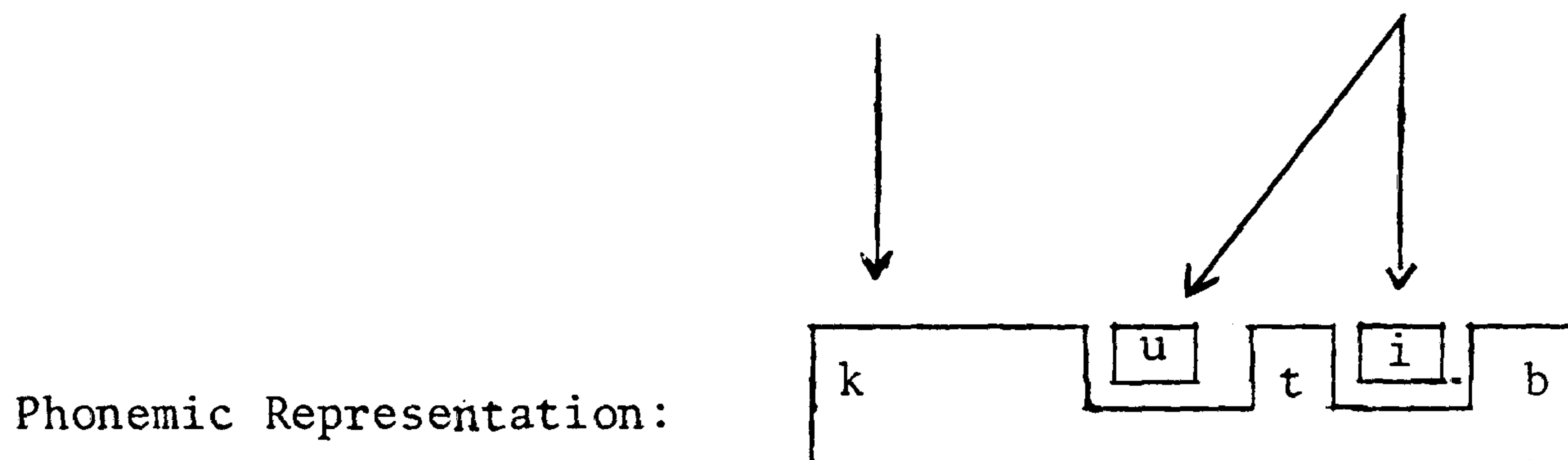


Figure 4.A

(b) kātib:

Morphemic Representation: katab + Active Participle

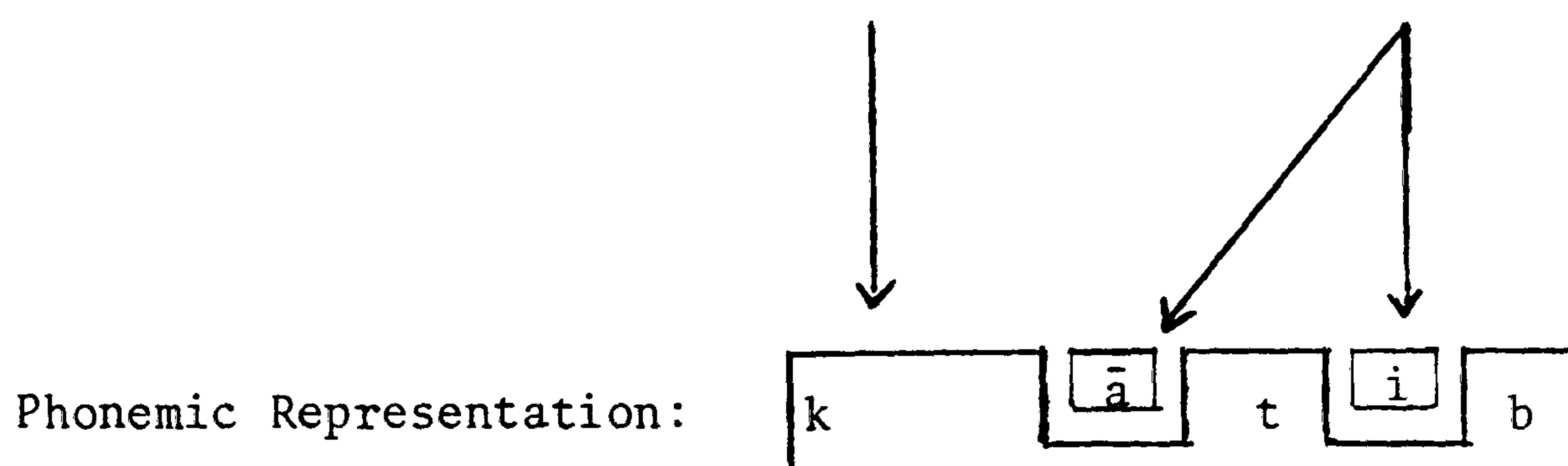


Figure 4.B

This type of replacement (one could also think of /ā/ in /kātib/ as two vowels, the second of which is an infix constituting with /i/ a morpheme of 'infix plus replacement') which involves an insertion of a discontinuous morph in a discontinuous segment does not fit in with IA, which requires a distinct and overt realization for each grammatical

element. The notion of 'replacement', 'is one which is quite foreign to the Item and Arrangement view of language'.¹ On the other hand, the Rule-system of the formulated WP is capable of handling such Morphological Processes, as is reflected in the following point.

(4) The exclusion of 'infixation', 'replacement', and other such processes from IA is met in IP with a perfectly natural place of accomodation.² Setting aside, for the moment, the 'morphophonemic fusion (assimilation)', 'dissimilation' and other such processes, which are mostly incorporated - in the traditional Arabic grammar - under the subject of Tajwīd (the phonological analysis of Qurʾānic recitation),³ we find in CA quite a number of the phenomena which could be interpreted in terms of cumulative processes (morphological fusion).⁴

Take for instance, the form /yukramāni/ 'they (dual) are to be given hospitality', which is a word of the grammatical representation: 'imperfective, passive, third person, dual'. Two of these properties are expressed cumulatively, as in the following diagrammatic representation:

¹ Ibid., p.59.

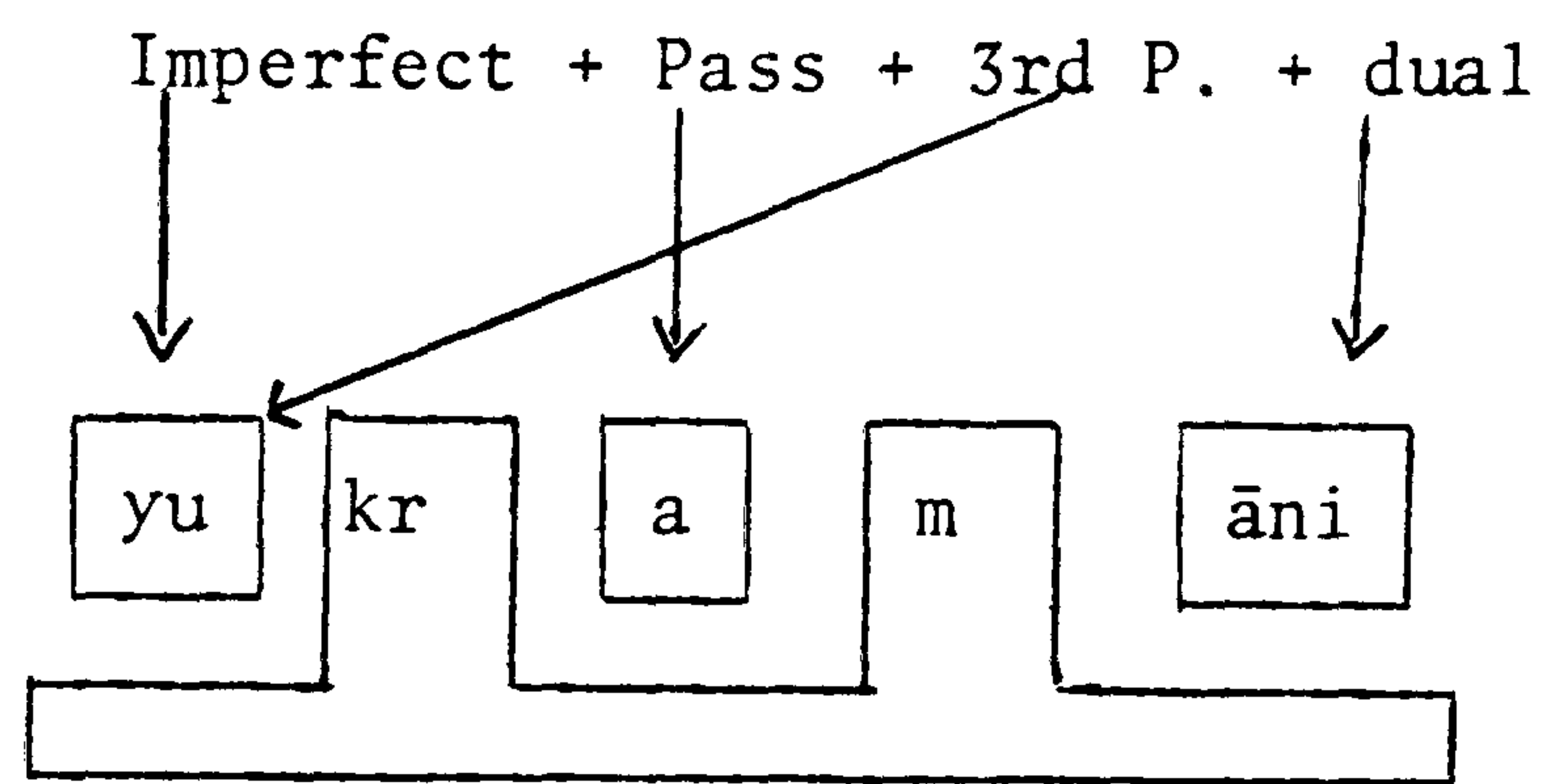
² See ibid., pp.57-62, for the descriptive statements of such processes.

³ See ʾanīs, I. al-Aswāt al-ṭuḡawīyyah, pp.126-129, cf. Sībawayhi, Kitāb, 2, pp.452ff.

⁴ See Matthews, Inflectional Morphology, pp.65-76, for the concepts of 'fusion', 'cumulation', etc.

Yukramāni:

Morphemic Representation:



Morphophonemic
Representation

Figure 4.C

This type of lexical-phonemic cumulation, as well as the other type of morphological process (morphophonemic processes such as those reflected in sandhi-rules), which are conceptionally part of the IP system, find a place in WP of which, "the final requirement is that the model must allow for processes at both the morpholexical and the morphophonemic levels".¹

The persisting argument against IP in general, which relates to the notion of 'historicity', is in the present case invalid. To put it in Robins' wording: it is invalid now to argue that the use of 'process' terminology in WP would imply, like IP, a historic perspective and confuses synchronic with diachronic linguistics, because "'Process' as used today in any model of descriptive grammar is simply a means of relating formally one word or form to another word or form by the most economical statement, and implies no sort of time dimension".² Whether

¹ Ibid., p.108.

² Robins, R.H., In Defence of WP, p.136.

the reference of this statement to WP, holds to the traditional method of resorting to the tables of paradigmatic sets in setting up the rule for each case, or it holds to the formulated version of WP, the essence of the statement undeniably favours the latter. In this sense it combines in perfect harmony with Matthews' statement that "a process system is more in accordance with the logic of the Word and Paradigm model".¹

This last consideration, added to the preceding points, should hopefully set all the selectively stated facts of reasoning in a form that makes sense.

¹ Op.cit., p.69.

IV.2

T H E W O R D A N D P A R A D I G M M O D E L

4.2.0 The most serious criticism against the traditional type of grammars in general, is probably the reliance of those grammars on external ill-defined aids, such as the reader's imagination, or his prior knowledge of the given language or other languages similar to the given one. What is now required to meet this criticism is a linguistic theory with a model of description which could provide precision both in the specific grammatical rules (the Rule-System) and in the way or procedure in which the rules are to be applied and interpreted, so that the application of the rules in accordance with the specified procedure can generate the required formation without the interference of any external element.

It goes without saying, that this applies to all the three major disciplines of 'Linguistic Sciences', viz. Grammar, Phonology and Semantics. But as grammar - which is our concern here - is divisible into two subsections, preferably called components, we must exclude from the beginning the 'Syntax Component' which we may not resort to except for expository purposes. The other subsection which we do require for our present description, is the 'Inflectional Component' which is restricted to the inflectional problems, i.e. to assign alternative

realizations to each grammatical word. Within this area of grammar, each language looks for the ideal morphological model with the precision referred to.

So far as the morphology of CA is concerned the Word-and-Paradigm system (WP) is so far the ideal model for that purpose. In our theoretical discussion of the various models, we have explained why WP model (as formalized by Professor Matthews) has been regarded as the ideal option for approaching the analysis of CA.

For practical purposes, a brief survey of the general outline of the model, might be required at this stage in order to specify the basic terms and relations as well as the appropriate type of the rule-system used in the analysis. The following brief account of what Matthews has stated in this connection, compared when necessary to Robins' and other statements, may suffice for the purpose.¹

WP grammar, as formulated in the following system of 'Inflectional rules', is well able to handle what is regarded as the

¹ Detailed discussions of this Model are in: Matthews, P.H., 'The Inflectional Component of a Word-and-Paradigm Grammar', Journal of Linguistics, 1(1965) 139-71; 'Some Concepts in Word-and-Paradigm Morphology', Foundations of Language, 1(1965) 268-89; 'A Procedure for Morphological Encoding', Mechanical Translation, 9(1966) 15-21; Inflectional Morphology, Cambridge University Press, 1972, particularly pp.160ff; Morphology, Cambridge University Press, 1974; 'The Main Features of Modern Greek Verb Inflection', Foundations of Language, 3(1967) 261-283. Robins, R.H. 'In Defence of WP', Transactions of the Philological Society, (1959) 116-44.

main weaknesses of the accepted morphemic model, i.e. the 'replacives' or 'processes' in general as well as 'parasitic' forms. In order to handle a non-morphemic statement of, say, 'replacives', such as 'the past tense of verbs like SINK, SING or RUN which are formed from the root by replacing i or u with a', the WP grammar needs two types of 'Inflectional rules' for its grammatical statements. That is because such a statement incorporates two different sorts of statements: one is concerned with the 'operation' (the replacement of i or u by a), and the other with the set of forms derived from another set (past forms of SING, SINK, RUN, are derived from the roots of SING, etc.) by the operations concerned.

For this particular reason, the 'Inflectional sub-section' has been divided into two main sub-components: (1) the derivational sub-component (sometimes referred to as 'the effective sub-component') and (2) the 'list of operations'; in addition to the lexicon section, which is a simple list of lexical entities that specify the roots and define the membership of the inflectional classes. But before presenting these divisions of the system in the simplified manner possible, quoting whenever possible, for the sake of convenience, Arabic instead of the original examples given there, we should first introduce the basic terms used in this presentation.

4.2.1 BASIC TERMS AND RELATIONS

Formalisation of the WP model requires in the first place the definition of the term 'WORD'. Traditionally, the 'word' has been used in three different senses: (a) the phonological representation

of the linguistic forms concerned (word-form) symbolized by ω ,
(b) the grammatical representation (WORD) (e.g. first, sing., passive
of katab) symbolized by ω , (c) the lexical element to which all
members of the paradigm belong (Lexeme) symbolized by L.

Another term is 'category', which has also been used in
three different senses: (a) a class such as 'noun' or 'verb',
(b) a morpheme-class such as 'aspect' or 'person', (c) an individual
classificatory feature such as: perfective aspect, second person, etc.
In the present work the term 'category' is restricted to sense (b),
and to avoid confusion, the qualifier 'morphosyntactic' is added,

"Thus Aspect and Person are morphosyntactic
categories in that they play a role both in
the morphological structure of the word (in
sense [b]) and in its external relations
within the syntax. Similarly, the terms in
such a category (sense [c]) will be referred
to as 'morphosyntactic properties'; as such
they are again predicated of the word in sense
(b)."¹

According to these terminological distinctions, the model
will postulate the following basic terms and relations:

- (a) A set of lexemes L, e.g. wajaḍ, fariḥ, etc.
(to be grouped into lexeme-classes)²
- (b) A set of morphosyntactic properties P (e.g.
first [person]).

¹ Matthews, Inflectional Morphology, p.162; cf. Lyons, Introduction to Theoretical Linguistics, pp.194-8.

² 'Lexeme' is the fundamental unit of the lexicon of the language which may be noun or verb, etc., cf. Matthews, Morphology, p.22.

- (c) A set of morphosyntactic categories C (e.g. Person). Two further requirements to be added here are:
- (i) No property may be assigned to more than one category.
 - (ii) Each category must be assigned at least two properties.
- (d) A set of operation-symbols O (e.g. O_1, O_2, \dots ^{On} ~~an~~)
- (e) A set of index-symbols I (e.g. R, V, N, S, as symbols for Root, Verb, Noun and Stem, successively).
- (f) A set of words W,
Each word characterized with two relations:
- (g) A relation B (belongs to), (e.g. W /yaktub/ B L /katab/). An identical term E (is a member of).
- (h) A relation Q ('has the property'), (e.g. W /yaktub/ which belongs to L /katab/ has the properties: Imperfective, second person, Active), this may be written in the form: W /yaktub/ B L /katab/ Q If, 2nd, A.
Restrictions of these relations would be:
- (iii) No W may be assigned to more than one L
 - (iv) No W may be assigned more than one property from the same category.
- (i) A set of phonemes Φ
- (j) A set of word-forms Ω
- (k) A relation R ('is a realisation of'), e.g. Word-form /yaktub/ is the realisation of ω (grammatical word): KATAB If, 2, a.
Two further relations, which are particularly important to WP are:
- (l) A relation E (is an exponent or partial exponent of), i.e. the formative, which is the phonological elements or features contributed to the total word-form (derivatum) by the application of a given operation, e.g. /ā/ is the exponent of the property 'dual' in the Ω (word-form) /katabā/ 'they wrote'.
- (m) A relation F (is a formation of), the relation obtaining between 'Formation' and 'Focal Terms':

- (i) 'Formation' is the operand-component and operation-component together of any individual derivational rule, e.g. 'the suffixation of /ā/ to the verbal stem, inclusive, in the formation for 'duality'.
- (ii) 'Focal Term': (it is a relation for contrasting one 'formation' with another, in order to avoid the properties in the reference-component that are not meant by the 'formation' in the given rule). A property P is a 'Focal Term' with respect to W (a set of words) and to some form-class or stem-class I, if for some I' (a further stem-class) the derivation meets the conditions:
 - (1) $\omega R \tau$ and $\tau E W$, $\tau Q P$
 - (2) The ref-component of $r Q p$
 - (3) r has I in ref-comp., and I' in operand-component.
 - (4) There is no larger set W_1 where condition (3) is not met.¹

4.2.2 STRUCTURE OF THE MORPHOLOGICAL RULE-SYSTEM

To see how such a morphological rule-system operates, we need to look first at the problem of the inflectional structure in general terms, then consider how the derivational rules should be formulated, and how an overall procedure of interpretation is applicable to every individual rule, and then end up with the consideration of ordering the derivational rules.

¹ Cf. Matthews, *Inflectional Morphology*, pp.186ff.

4.2.3 GENERAL REMARKS

An individual (word-form) may be characterised by a root and a certain sequence of operations. For example, the Arabic word-form /yaktubāni/ 'to write (dual)' is characterised by the root /k-t-b/ and the operations: prefixation of /ya/, insertion of (or replacement of the second lexeme vowel by) /u/, and suffixation of /āni/.

As the number of sequences involved is finite,

"it therefore follows that the set of all word-forms in the language may be together characterised by (a) a list of all possible roots, and (b) a Finite State machine which generates the sequences of operations concerned."¹

The task of the 'Derivational Subsection' of the grammar is to supply for any word a path through such a Finite State machine. "Each stage in the derivation of a word-form corresponds, in the machine, to a single transition from one state to another."²

4.2.4 THE DERIVATIONAL SUB-COMPONENT

The derivational subsection of the grammar consists essentially of a set of derivational rules, each of which specifies: (a) a transition, and (b) the conditions governing a transition; "within a Finite State machine whose structure may be said to be characterised by the subsection as a whole".³ It consists entirely of

¹ Ibid., p.170, and see the Finite State machine diagram in ibid., p.171.

² Ibid., p.172.

³ Ibid., p.174.

rules of the type:

$$[V_{pf}] \quad A; \quad o, R$$

A verbalization of this rule is "for any member of A, V_{paf} is derived from the root (R) by the application of o". V is a cover-symbol for the set of all strings of letters s which realize the verbal lexeme; it is a form-class symbol.

Each derivational rule is to be represented by an expression of the following components:

1. An 'operation-component' which specifies the change involved, e.g. suffixation of /āni/.
2. A 'Reference-Component' which specifies the general class of forms to which the output belongs, e.g. the form-class of verb-forms.
3. An 'operand-component' which specifies the class to which the input belongs, e.g. the class of primary stems in the illustrative example given below.

These three parts are parallel to: the individual transition, its resulting state and its preceding state respectively. Which transition is to be made is determined by the remainder of the rule, e.g. the determination of the morphosyntactic properties added to the reference-component. To illustrate, the given example may be represented as follows:

KTB_{If, 3, d}

(i.e. the third dual of the imperfective of KTB). Provisionally this might be expressed with the components:

Reference: $\left\{ \begin{array}{l} \text{Verb} \\ \text{If, 3, d} \end{array} \right.$

Operand: Primary stem.

Operation: $\left\{ \begin{array}{l} \text{Prefix /ya/, deletion of } V_1, \\ \text{replacement of } V_2 \text{ by /u/,} \\ \text{suffix /āni/} \end{array} \right.$

(i.e. a verb-form is derived from its primary stem (traditional perfective 'past') by the affixes mentioned, provided that the word it realizes has all the properties: If, 3, and d). In other words, the reference-component specifies the class of forms as well as its precise subset. In the next stage the rule will involve a fourth component:

4. A 'Limitation-component', which restricts the transition to forms of a certain subset of lexemes, e.g. the following subset represented by L.

Thus, adding this component to the same rule, the form of the rule for the same grammatical representation would require to be slightly longer in order to derive /katab/ (Primary stem: S^1), viz.:

Reference: $\left\{ \begin{array}{l} \text{Primary Stem} \\ 3, \text{ sg} \end{array} \right.$

Limitation: L

Operand:	Root
Operation:	Dis Mor

Where L is defined as a morphological class with the (strong triliteral verbs) as its members. The rule would then be verbalized as:

A primary stem with the morphosyntactic properties (3, sg) is derived from the Root by the operation 'discontinuous morpheme' (Dis Mor) - which is a double vowel-insertion, determined lexically - provided that the word being realized belongs to some member of L.

4.2.5 FORM AND INTERPRETATION OF THE DERIVATIONAL RULES

An individual derivational rule may be expressed in the form:

[Reference] Limitation; operations, operand

where:

Reference: is an expression of the form: ip_1, p_2, \dots, p_n ($n \geq 0$), where i is one of a set of Index-symbols which may be classes of stems or word-forms, and each p_i is a symbol denoting some members of P.

Operand: is either a single symbol R (denoting the set of all roots in the language), or a further such expression: $i' p_1, p_2, \dots, p_m$ ($m \geq 0$) where i' is a further index symbol which may or may not be identical to i in 'Reference'.

Limitation: is either null or an expression denoting a certain subclass of lexemes.

Operation: is either null, or an expression of the form:

$o_1, o_2 \dots o_i$
 $(i \geq 1)$ where each o_i is an operation-symbol denoting a certain morphological operation.

Thus according to this notation, the preceding rule glossed under three (the operand-component) may now be set out in the form:

	$[V_{If, 3, d}]$	o_1, o_2, o_3, o_4, S^1
where:	$o_1: \text{op[erand]}$	$ya + \text{op[erand]}$
	$o_2: \text{op} \longrightarrow$	$\text{op} - v_1$
	$o_3: \text{op} \longrightarrow$	$\text{op} \pm v_2: u$
	$o_4: \text{op} \longrightarrow$	$\text{op} + \bar{a}ni$

(The sign '+ op' denotes a prefix, 'op+' a suffix, 'op-' a delition, 'op ± :' a replacement; ' v_i ' for the first or second vowel of the Dis Mor, and ' C_i ' for any of the radical consonants).

Likewise, the rule glossed under (4) 'the limitation component', may be set out in the form:

$[S^1_3, sg]$	L;	Dis Mor, R
---------------	----	------------

(i.e. for any member of L 'a major class of verbal lexemes' a primary stem for the third person singular is derived from the root by the operation Dis Mor).

4.2.6 THE LIST OF OPERATIONS¹

The various morphological processes need to be entirely studied, before a complete list of the operation-rules is to be clearly described. A general idea of how the operation-rules operate, may have already been conceivable from the illustrative examples of the preceding subsection. Nevertheless, it may be helpful, for the sake of grouping the various cases, to distinguish three main types of operations:²

(i) Operations that merely add a constant element immediately before or after the operand, e.g. prefixation of /ta/ and suffixation of /ūna/ to the Arabic stem /ktub/, to form the second plural form /taktubūna/ 'to write'. Representation:

$$\begin{array}{l} \text{op} \longrightarrow \text{ta} + \text{op} \\ \text{op} \longrightarrow \text{op} + \text{ūna} \end{array}$$

"Any case of this type may be subsumed under the general heading 'Affixation'".

(ii) Operations of various kinds (suppletion, reduplication, etc.) whose effect is partly determined by the internal structure of the forms to which they are applied. Representation of such operations is partly phonological rather than morphological. The reduplication rule, for instance, might be written in this format:

$$C \dots \longrightarrow \text{CEC} \dots$$

¹ Loc.cit., and cf. Matthews, 'The Inflectional Component of a Word-and-Paradigm Grammar', pp.147ff.

² See the Morphological Processes in: Matthews, Morphology, pp.116ff.

where C[onsonant] is a cover-symbol for the different consonants,
and the row of dots indicates that C is initially positioned.
Similarly, an infixation rule might be written in the format:

..... (o) ———>n (o)

where O[bstluent] is a cover-symbol for the consonants other than
'resonants'.¹ "This notation may be used whenever the phonological
'primes' are units such as phonemes, letters or morphophonemes";² but
not 'distinctive features' which need different format.

(iii) Operations "whose statement must refer not only to the
internal structure, but also to what may be called 'derivational
history of the operand'."³ Given an artificial example of a pair
of verbs (PONETIKE and ADOLISTE) with their paradigms,⁴ whose forms
pose "the problem of a moveable accent*".

The roots of these two verbs are respectively pón and
ádol: on this basis the 3, sg, masc, and 3, sg, fem, are handled by
straight suffixation. Past stems of the two forms pón and ádol are
derived by an effective rule:

¹ A 'resonant' is "A speech sound which can be lengthened indefinitely,
e.g. —> vowels ———> nasal or ———> lateral consonants, as opposed
to obstruents." Dictionary of Language and Linguistics, p.197.

² Matthews, 'The Inflectional Component of a Word-and-Paradigm Grammar,
p.148.

³ Loc.cit.

⁴ Loc.cit., and see in this page these paradigms stated in terms of
tense, number and gender.

* Although, in our analysis of CA, we may not concern ourselves with
this problem of 'moveable accent', the possibility of being faced
with some kind of a 'derivational history of the operand' makes it
preferable to see the solution presented here.

[Spa]

R

and present stems pónetik and ádolíst by a pair of rules:

[Spr] { PNETIKE } ; o_1, R

[Spr] { ADOLISTE } ; o_2, R

where o_1 , and o_2 , are operations as follows:

o_1 : $op \longrightarrow op + etik$

o_2 : $op \longrightarrow op + ist$

two of the remaining effective rules are written as follows:

[V₃, sg, masc] o_3, S

[V₃, sg, fem] o_4, S

the operations being:

o_3 : $op \longrightarrow op + us$

o_4 : $op \longrightarrow op + a$

"That is, any third singular, masculine form is derived from the relevant stem (whether present or past) by suffixing us, and any third sg. fem. form by suffixing a. Each of the others, however, would involve a pair of operations:"¹ viz.

[V₁, sg] o_5, o_6, S

[V₂, sg] o_7, o_8, S

Where o_6 and o_8 are:

o_6 : $op \longrightarrow op + e$

o_8 : $op \longrightarrow op + i$

¹ Matthews, 'The Inflectional Component ...', p.149.

Of the accent operations (o_5 , o_7), o_7 which moves the accent to the final syllable of the operand, could be written (in terms of (ii) above) thus:

$$\dots \acute{v} \dots v (c) c \longrightarrow \dots v \dots \acute{v} (c) c$$

But o_5 , which mainly concerns us, cannot: the V[owel] to which the accent must be moved is not the first or second of the operand as such, but the final V of the root in the operand. Therefore, the index-symbol R must be referred to, e.g. the operation might be represented in the form:

$$\begin{array}{c} R \\ \hline (\dots \acute{V}) \dots VC \longrightarrow (\dots V) \dots \acute{V}C \end{array}$$

This is what is meant by 'the derivational history of the operand' being referred to by an operation. To apply this rule one has to know that the operand to which it is applied has been derived from a certain root by a certain affixation.

This should do for a general illustration of how the morphological operations are characterized.

4.2.7 PROCEDURE OF INTERPRETATION

In the preceding derivational subsection, rules were interpreted individually by means of explanatory remarks. What is needed now is an explicit procedure of interpretation which determines

the stages of the application of rules for deriving the word-form or the set of all word-forms that are realizations of ω . In other words, this procedure is meant to show how the rules bring about a pairing of grammatical and morphophonemic representations. In order to explain the steps that should be followed according to this procedure, it is probably most convenient to copy without any alteration Matthews' (Preliminary flow-chart, fig. 9.2¹):

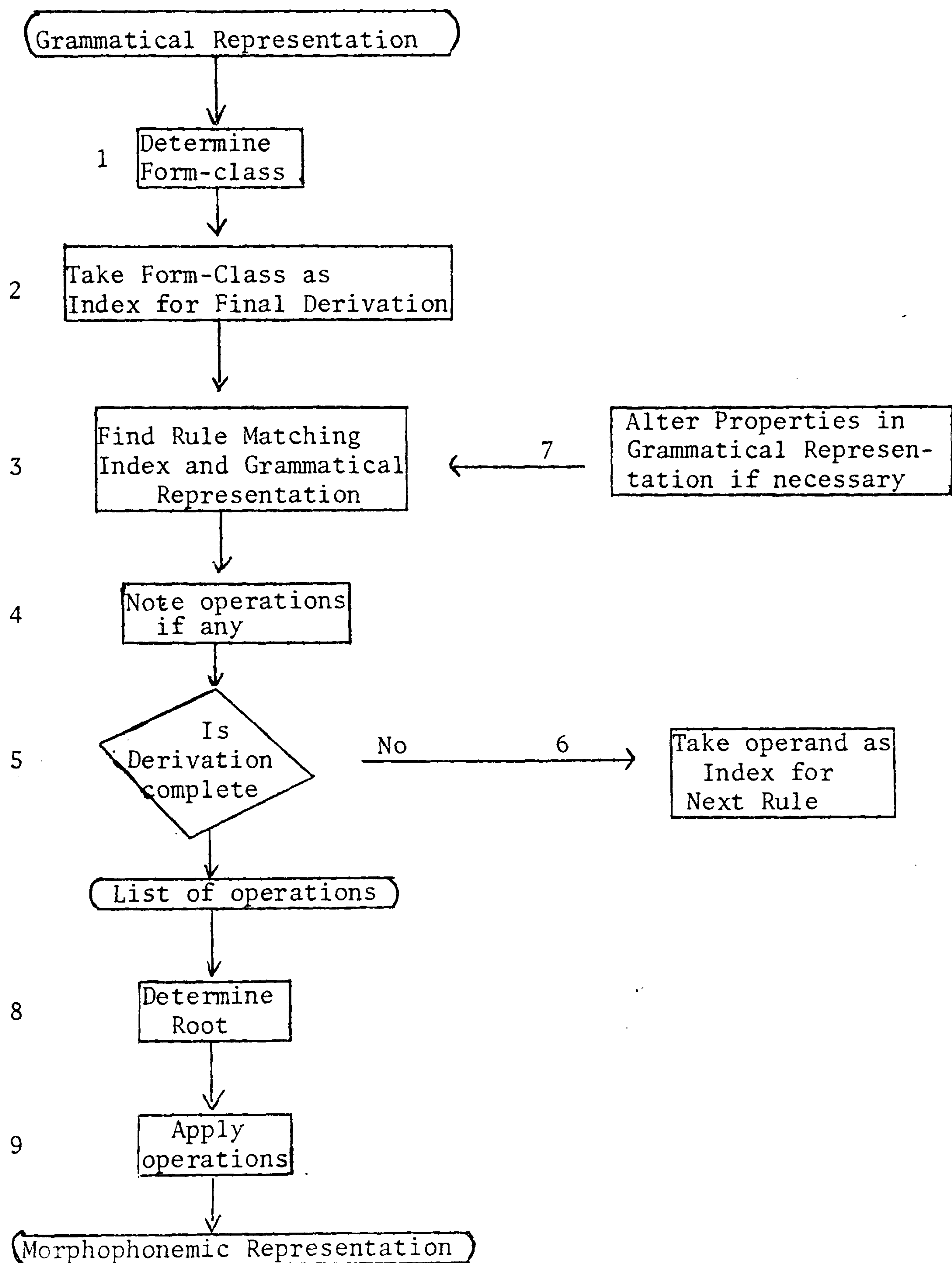


FIGURE 4.D

¹ See Matthews, Inflectional Morphology, p.178.

To illustrate how such a procedure works, let us take two examples: one verbal and the second nominal (nominals include: nouns, adjectives and participles as a single form-class), as this procedure is meant to apply to both.

First, let us take - for verbal - the preceding example (yaktubāni). The input would be a grammatical representation of the form:

KATAB If, 3, d

For the categories: voice and gender, the form is always A[ctive] masc[uline], unless otherwise indicated. Following the 'Preliminary flow-chart' from the first step to the output, the representation would be as follows:

1. Verb
2. v
3. [v_{If, 3, d, masc}] o₁, o₂, o₃, o₄, S¹
4. Operations here are as specified in the same example before (p.193).
5. Derivation not complete
6. S¹
7. [S¹_{3, sg}] L; Dis Mor, R
8. KTB
9. Ya + KT±u, + B + āni *

output: yaktubāni

FIGURE 4.E

* A comma will always be used to separate the vowel that comes between two radicals, particularly at stage (9) of the procedure.

Second, let us take for nominal, the word-form /mudahrijah/
 'roller (fem)' of which the input grammatical representation ω would
 be (Ac-p for Ac[tive] - p[articipule]):

DAHRAJ Ac-p, 3, sg, fem

1. Nominal
2. N
3. [N Ac-p, sg, 3, fem] B; o_1, o_2, o_3, S^2
4. (^JDAHRAJ EB, B; index for quadriconsonantal verbs).
 $o_1 : op \rightarrow op \pm yu : mu, o_2 : op \rightarrow op \pm v_2 : i, o_3 :$
 $op \rightarrow op + ah$ (the vowel following the fem suffix
 varies according to case-endings).
5. Derivation not complete
6. S^2
7. [S^2 If, 3, sg] B; $yu + , \pm v_2 : i, S^1$
 (For space-saving, operations are here stated directly)
8. DHRJ
 (The stage of deriving this Root from S^1 is similar
 to that in the preceding verbal example)
9. $mu + DAHR \pm i, J + ah$

Output mudahrijah

FIGURE 4.F

The result as one can see, is - in both the verbal and the
 nominal examples - realizations of ω in terms of the inflectional
 section of the grammar concerned.

4.2.8 ORDERING OF THE DERIVATIONAL RULES

The idea of ordering the rules of the derivational subsection is to guard against misinterpretation of these rules if taken unorderedly. To illustrate the advantages of ordering the morphological rules, let us take two examples, one for exceptions of one paradigm as against the others, and another for exceptions within the same paradigm.

1. In order to derive the perfective stem of a triliteral strong verb, a general rule is to be cast as follows:

$$(a) \quad [S^1_{3, sg}] \quad \text{Dis Mor, R}$$

Such a rule would apply to one of the largest classes of verbal lexemes, but there is a small class of lexemes which consists of the triliteral verbs to which this rule cannot apply, i.e. the medially weak verbs, such as /qāl/ 'said' and /bā[̣]/ 'sold', which are conventionally said to be of the original forms /qawal/ and /baya[̣]/ successively, with the approximants /w/ and /y/ as medial radicals. The rule for deriving a perfective stem of this class, call it class (K;), should be cast (with two operations) as follows:

$$(b) \quad [S^1_{3, sg}] \quad K; \quad \text{Dis Mor, } \pm c_2: \bar{a}, R$$

(where c_2 represents the approximant as it occupies the place of the second radical). In order to reflect such a difference between rule (1:a) and rule (1:b) in the derivational subsection, rule (1:b) has to come first as an exception for rule (1:a) which is more general for having no limitation-component.

2. For the second example, let us take the third person singular formations restricted to the affixes for the Ac voice, $_{pf}$ and $_{If}$; and the P[assive] voice, $_{pf}$ and $_{If}$. If we handle each of these properties with an individual rule, we will end up with four rules, in addition to that of the stem for the third person singular formation, and that would be formally uneconomical. The solution then is to form a rule for four properties, which may take the following representation in the reference-component:

(a) $[V_{If}, P, 3, sg]$

and treat this rule as an exception to a general rule whose reference-component may be recast as follows:

(b) $[^V_{If}, 3, sg]$

In other words, rule (2:b) will apply to any verbal lexeme (S^1) unless it is assigned to the property 'Passive' which require the exception rule (2:a) to handle, e.g. /yaʔkul/ 'to eat', /yuʔkal/ 'to be eaten', respectively.

The exceptional rule should always precede the general one. The less general rule should be ordered earlier than the more general. Externally, the rules are unordered. In other words, the rules should be ordered within the rule-groups, i.e. within each rule-group whose members share the same Index-symbol; but not necessarily among the sets of the separate rule-groups. That is what is meant by "the rules of the derivational subsection must be interpreted as at least partly ordered".¹

¹ Matthews, Inflectional Morphology, p.193.

To find the rule that applies to a particular stage of the derivation (cf. box 3 in fig. 4.D), the procedure, scanning the sub-section, must not consider a more general rule (e.g. 2:b) until each of its exceptions (e.g. 2:a) has firstly been considered and rejected. For this reason, box 3 of (fig. 4.D) needs to be expanded by means of the sub-procedure (fig. 4.G).¹

In this sub-procedure, the steps to be followed are:

1. Determine the Index for the derivative stage in question (fig. 4.D, box 2 or 6) by finding the relevant Rule-group which shares the same index-symbol (box 3A). This requires the rules to be organised into clusters, each sharing the same index-symbol in their reference-component, e.g. Primary Stems form a group, Verb-forms another, etc.

2. Take the first rule in this rule-group (box 3B), and see if it meets the conditions (box 3C, box 3D). If both are met, then this is the rule required, and the procedure should move on to the next major step (box 4) to note the operations. If either of the two conditions is not met, then it simply tries the next rule (box 3E), and so on the search continues in a strict order until the appropriate formation is found.

¹ See ibid., p.195.

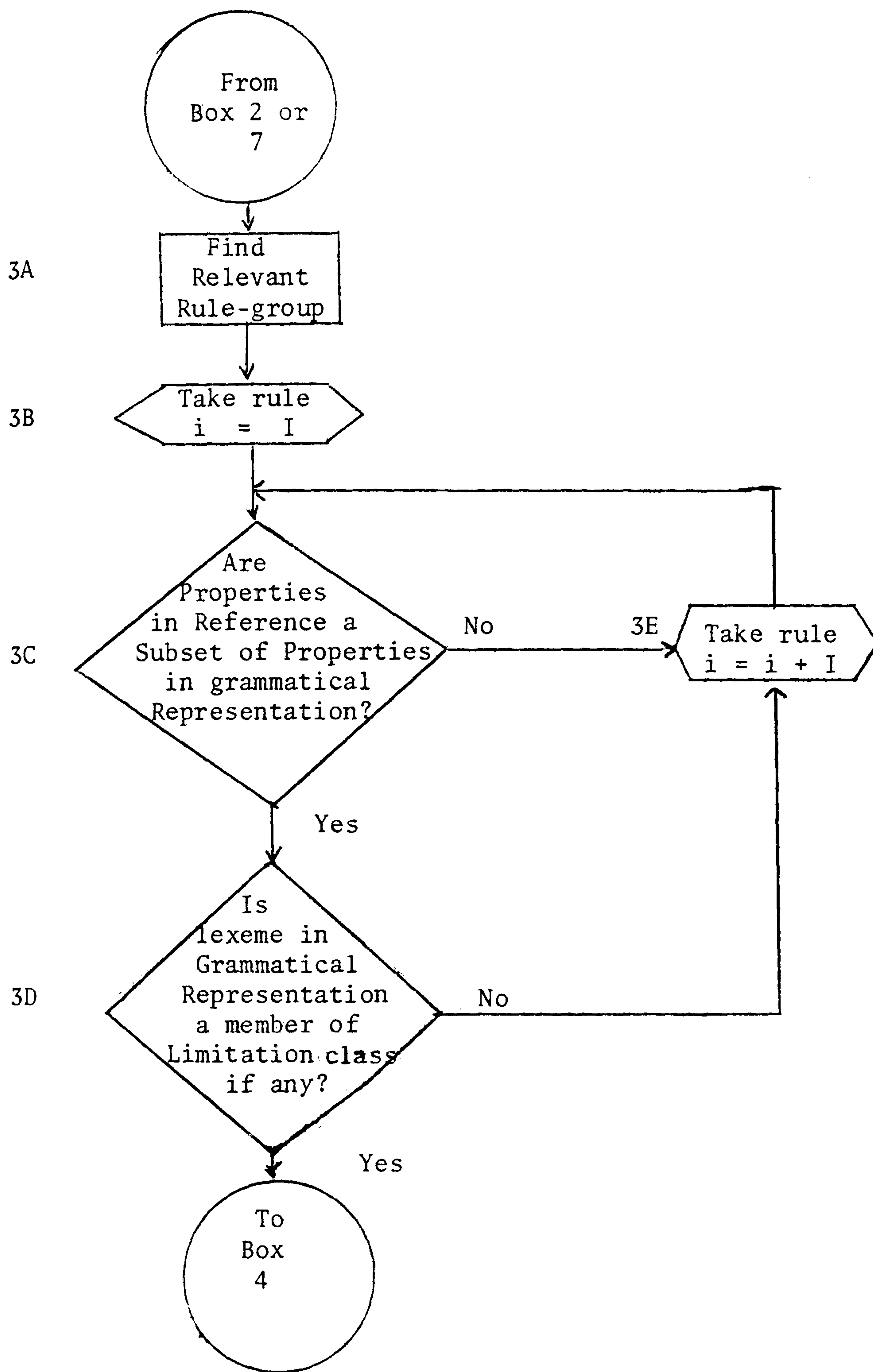


FIGURE 4.G

3. To illustrate this sub-procedure with the examples given, let us first take example (1):

Beginning by locating the Rule-group with the index S^1 , of which both (1:a) and (1:b) are members, the exception (1:b) should appear earlier than (1:a) to which it is an exception. If the grammatical representation was that of:

QAWAL 3, sg

rule (1:b) would meet the conditions in (boxes 3C and 3D), as property in Reference is the same as that in grammatical Representation, and the lexeme is a member of the Limitation class specified. But if the grammatical representation was that of:

KATAB 3, sg

the procedure would first examine rule (1:b), but since /katab/ is not a member of the special class K; rule (1:b) will not satisfy the condition in (box 3D). Hence the procedure would have to move on (box 3E) to examine rule (1:a) which would satisfy the condition in both (box 3C) as well as (box 3D).

In the case of the second example, the less general rule (1:a) would be placed earlier than the more general rule (1:b), and accordingly, in a grammatical representation such as:

?AKAL If, P, 3, sg

the former rule (1:a) would satisfy the condition in (box 3C) before consulting the latter (1:b). But if the grammatical representation was:

?AKAL If, 3, sg

the procedure would have to move on (box 3E) to the latter rule (1:b) which is more general for having no mention of the property 'Passive' as part of its reference-component. In this way the exception may involve both the reference as well as the Limitation-component. There may also be two exceptions or more to one general rule, as there may be an exception to a rule which is in itself an exception to a more general rule.

4.2.9 DISTINCTIVE FEATURES OF THE SYSTEM

Unlike the conventional 'morphemic' type of description, which defines a mapping of a string of morphemes onto a string of morphemic segments (e.g. in the word /katabū/ the morpheme pl is mapped onto the segment /ū/), the WP type of analysis defines no such mapping,¹ avoiding thus the complications that usually arise from the technique of ordering the morphemes.

"According to this model, a term such as Pf or sg is a property of the word as a whole; it does not 'operate' at any fixed position in word-structure, nor need its exponents be restricted to a single formative."²

¹ Cf. Matthews, 'The Main Features of Modern Greek Verb Inflection', Foundations of Language, 3 (1967) 261-283, particularly pp.279ff.

² Loc. cit.

Formative (marker) and Exponent are quasi-synonymous according to the definition that 'exponence' is the relation which obtains between any formative and any morphosyntactic property. To represent this exponence-relation (using the arrows) in a way that reflects how WP rules relate a property to the word as a whole, we have the subsequent diagram which is intended to be slightly diverse from Matthews' so as to accommodate the Arabic word /yuʕkarūna/ 'to be mentioned (pl)':

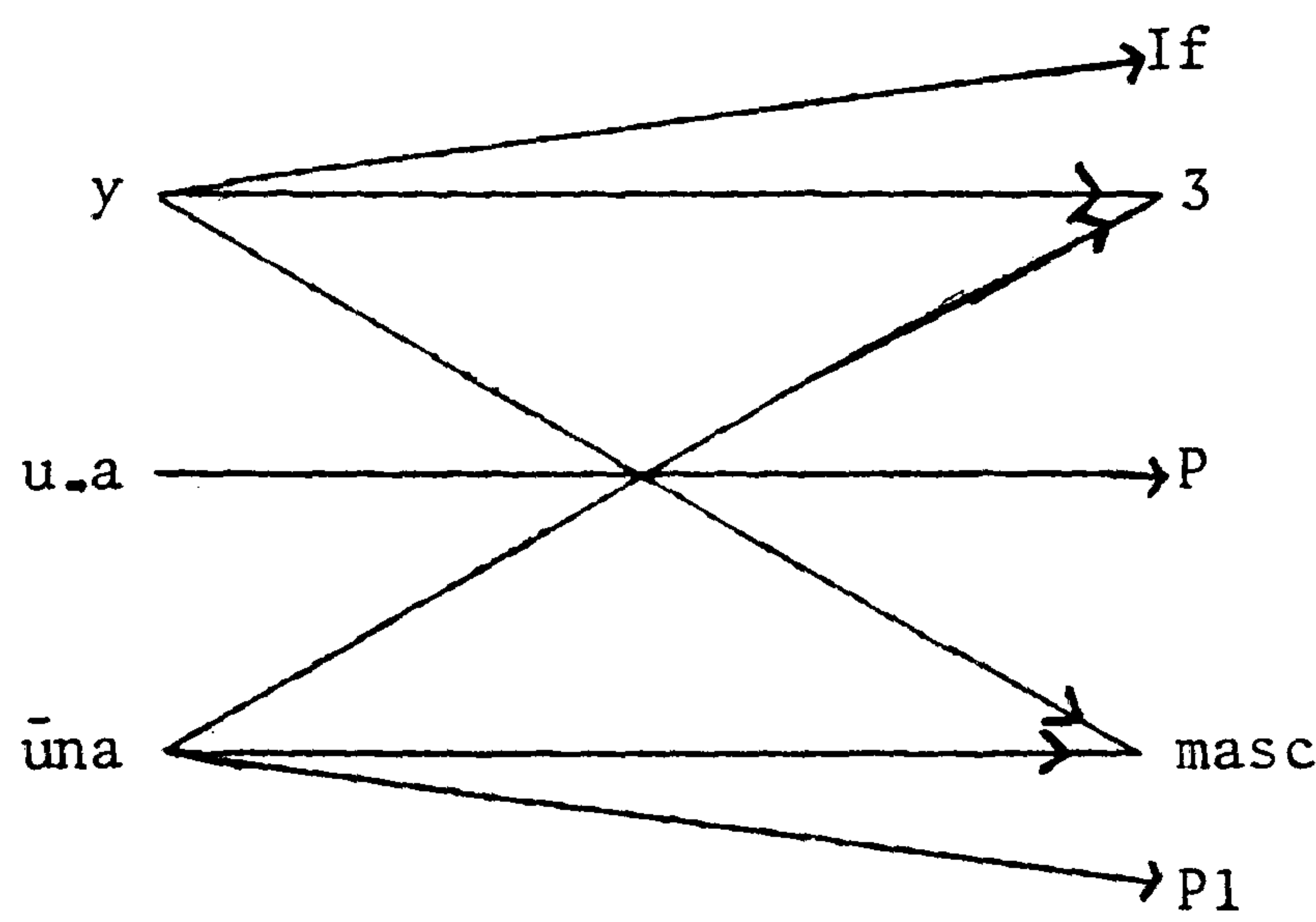


FIGURE 4.H

(i.e. /y/ is the exponent for the property imperfective as well as for properties third person and masculine gender; /u-a/ for passive; /ūna/ for third person as well as for both masc. and plural).

In addition to this distinctive feature, the major points of the system may be summed up as follows.

(i) The derivational subsection of the grammar will consist of a set of derivational rules; organised into sets of separate rule-groups 'clusters', each of which consists of a series of derivational rules sharing the same index-symbol in their reference component.

(ii) The rules themselves will be of the form of rules specified in this system.

(iii) The 'procedure' of interpretation, which is to define the stages for the application of each rule will be of the form of rules specified in this system; such that, given a word ω on the one hand and the rules on the other, the procedure will determine the word-form or the set of all word-forms that may be said to be realisations of ω . The procedure must treat the membership of any one rule-group as strictly ordered.

(iv) WP grammar will not be self-consistent unless it meets the following conditions:

1. Completeness: The rules as a whole must provide at least one realisation for every grammatical word ω .
2. Non-Redundancy: No more than one rule should lead to the same realisation of a ω ; and none of the rules is never operative (i.e. not participating in the realisation of any ω).
3. Exhaustive Interpretability: The 'procedure' must be able to trace every finite path (of deriving the derivation) back to the root-symbol.

4.2.10 ADAPTATION OF THE SYSTEM TO CA

Nothing much was needed to adapt the WP system to CA, i.e. it applies properly, as will be seen practically demonstrated. Few symbols and arrangements had to be introduced, for the sake of convenience relative to CA. These are fully explained in the right places, either at the section on 'Guiding Notes' for the final chapter, or at the brief introductions for the sub-divisions of the derivational rules. However, points that relate to matters of general reference could be collectively summed up as follows:

1. To be more economical, the final stage of each derivational rule in the present grammar is determined to be a lexeme [L]. But to conform with the 'Procedure of Interpretation', a general Rule is presented at the outset to handle deriving [L] from the Root [R], according to the procedural closing stage.

2. The derivation of the verbal stems had to go through six successive stages, each concerned with a single stem-formation. This is explained at the introduction to the Stem-Rules. This could find support in one of Matthews' statements, regarding derivation in 'Morphological Processes' such as 'infix' and 'replacement', as he stresses that what we are concerned with is "the derivation of a STEM or grammatically complex 'piece' on the one hand, from a ROOT or basic form of a lexical item on the other".¹

¹ Inflectional Morphology, pp.63f.

3. All the V-Rules in this grammar are, theoretically, supposed to be strictly ordered in one unit, as are rule-groups of other indices. But for the essential theoretical factor, which is the economical aspect, Rules under V-index had to be, voice-wise, subdivided into Active/Passive sub-groups so far as ordering is concerned. This is due to the fact that, in the present grammar, the Active/Passive forms are derivable from discrete stems of the verb concerned. This step is meant to economize the number of operations at the level of the stem morphophonemics when set in the separate rules of the paradigm. In other words, having the V-Rules ordered without this restriction is only achievable through deriving directly from the tertiary stem $[S^3]$, which would result in the operations, that transfer $[S^3]$ into either of the transitory stems $[T]$ or $[T']$, having to be repeated with each individual rule, in addition to the stem-paradigm operations. This is more apparently demonstrable in the modal section of the V-Rules.

4. The formation-component (i.e. operand + operation) in the V-Rules is set in a twofold manner, such that it reflects two different processes:

- (a) the pronominal suffixes, which are mostly the same under the various types of verbs, and which are suffixed to the operand index-symbol by the other symbol '+'; and
- (b) other operations which work on the stem before it receives the pronominal suffixes, and which are placed before the index-symbol with separating commas.

5. The pronominal suffixes, whose primary forms are presented with description in the discussion of 'Personal Pronouns' (Chapter V), are - for reasons of economy - represented in the V-Rules symbolically, unless they are partly involved in the stem-operations.

6. In addition to the general notational symbols, some grammatical symbols had to be introduced for the representation of features that are, rather exceptionally, characteristic of Arabic language, e.g. d(dual), §(jussive/subjunctive), ep(energetic imperative), etc.

Apart from the points clarified above, the grammatical rules in the present work will be produced in accordance with specifications of the model as described in this section.

V

T H E V E R B A L S Y S T E M

V

T H E V E R B A L S Y S T E M

5.0 INTRODUCTION

This chapter takes advantage of the axioms pertinent to the essential features of the classical Arabic verb structure, recasting them - whenever possible - in a conceptualized frame of reference relevant to modern structural linguistics. In other words it is a descriptive chapter concerned with the general features of the CA verb structure. Examination of those features is intended to be as brief as is possible without distortion, in order to serve the general purpose of this chapter which is to facilitate the making and understanding of the 'grammatical rules' in the following chapter.

The formal features would be the main objective of this examination. But, as both form and function are essential to the identification of any grammatical unit in a given language, the formal and functional characteristics of the verbal construction are both intended to be considered in this chapter. In other words, the verb slot is here considered formally in terms of the inflectional contrasts that shape the filler, as well as functionally in terms of the positioning

which defines the role of the verb as a linguistic form, relative to other forms in the same construction. But consideration of the functional (syntactical) characteristics of the verbal formation are here restricted to the minimal features required for the internal structure of the Arabic verb.

Perhaps the syntactical involvement in this respect is immediately demonstrable in Matthews' proposal that 'categories' and 'properties' should be qualified as 'morphosyntactic categories' and 'morphosyntactic properties', because "they play a role both in the morphological structure of the word and in its external relations within the syntax".¹ Expressing the same idea, Lyons² states that,

"according to their 'function' in the sentence, which is accounted for by the rules of syntax (with reference to such notions as 'subject', 'object', 'complement', etc.), words are said to assume a different 'form' and the different 'forms' are handled by morphology."

In Arabic particularly "case endings help a great deal in confirming these various functions of the Arabic noun morphotagmene".³ Also the 'adjective' term is thought to be better explained as a label for a subclass of nouns distinguished on grounds of their syntactic behaviour.⁴

¹ Inflectional Morphology, p.162.

² Introduction to Theoretical Linguistics, pp.194-95.

³ Bishai, Form and Function in Arabic Syntax, p.266 (Footnote)

⁴ Cf. Ferguson, C.A. 14, Review of: L'arabe Classique, Henri Fleisch, Language 34:2 (1958) 314-321, p.321.

As for what we are here concerned with, which is the verb in particular, examples of the morphosyntactic interactions are represented in, for instance, the verb/subject agreement in terms of 'number' and 'gender', which is "determined in CA by the position of the verb in relation to the subject".¹ Verbal moods are another example where exponents are mostly determined externally. But a more relevant example which expresses that type of interaction in the identification of the verbal construction, and as it is seen in this work, is perhaps the classification of the various verbal forms, both formally and in terms of meaning: basic meaning and secondary meaning,² which is a matter of a major role in the description of the Arabic verbal system.

However, 'Inflection' is basically a formal approach. And Arabic, like Latin (hopefully the comparison is allowable here), is considered an extreme example of the 'inflectional' languages, where 'inflection' is almost the only expression of the verbal features. With the inflectional features the Arabic verb goes up to over a hundred possible forms, all related to 'time' as the main information conveyed by the verb. 'Time' is always central in the traditional definition of the Arabic verb. According to Sîbawayhi,³ verbs are "forms derived from the abstract nouns to indicate the past, the present and the future". This is different from the general definition which usually

¹ Altoma, The Problem of Diglossia in Arabic, p.77.

² See Macdonald, John, 'The Arabic Derived Verb Themes: A Study in Form and Meaning', Islamic Quarterly, 7 (1963) 96-116, particularly pp.105ff.

³ Al-Kitāb, 1, p.1.

identifies the verb as "a word that takes verb inflections",¹ putting more emphasis on formal features than on 'Time'.

But the significant point to be made here is that, assuming the formal approach in this analysis does not necessarily exclude considerations of the semantical aspects of the verbal formation. A formal analysis does not mean that meaning is entirely ignored in arriving at the conclusions. On the contrary,

"it is very important to talk about the way in which the forms are used, to deal with meaning after the formal statement has been made ... A formal statement is formal as long as the criteria are formal, the definitions are made in terms of the form."²

As a formal class, the verb construction is a complex formation of a root, stem formatives and some categorical exponent(s). To reflect the characteristic features of these constituents, this chapter may objectively be divided into two main sections, each of which is in turn subject to further subdivisions.

¹ Cook, W.A., Introduction to Tagmimic Analysis, p.122.

² Palmer, F.R., A Linguistic Study of the English Verb, pp.7-8.

V.1

G E N E R A L C H A R A C T E R I S T I C S

5.1.0 This section will be dealing with the verbal features other than the 'grammatical categories' which will form the next section. The subdivisions discussed in this section are successively ordered as follows: an outline of the verb structure presented in general terms, the concept of a verbal 'base-form' and its relevance to the question of 'Empty morphs', the verbal root formation discussed in general terms as well as in terms of the number and quality of its radical constituents, and finally the question of 'transitivity' in the Arabic verb is brought forward as an extension to the verbal inter-sectional divisions which are all subject to a dichotomy in terms of this question, and considered for its morphological role.

5.1.1 THE VERB STRUCTURE (AN OUTLINE)

In the general evolution of language, as in many language-groups, verbs are held to be of later emergence than nouns, and among verbs the imperfects are thought to have preceded the perfects. But in Semitics in particular, the conviction is that roots which are vague and very general in meaning, were the basis for the development of

of both verbs and nouns.¹ For that matter, discussion of the verbal root is expected to overlap with that of the nominal root. But as the verb is our concern here, I shall generalize only when it is necessary to do so.

Generally speaking, 'root' is the basic form (construct) of a lexical item (lexeme), which forms the starting point in deriving a set of word-forms. It is "that part of a word structure which is left when all the affixes have been removed".² Any item is obtainable only through recognition of the 'root' which is the basis for every entry, and on the basis of which all the lexical data is distributed. The 'root' content is the central meaning to which all the items of any entry are related. Nonetheless, predictability of the various items is usually determined by a 'stem' rather than merely by a 'root'. 'Stem' is the grammatically complex (construct) which mediates, in the derivation, between the root and the total verbal form.³ Hence, the 'root' is a 'postulate' which lies outside the paradigm as such. This is especially so in the case of Arabic, where the 'root' is always thought of as an 'abstraction' of consonants that are never realized without a vocalic matrix which gives them the sense of 'stem'.

Arabic retains the Semitic characteristic of having the triliteral as the majority of verbal roots.

"Arabic is particularly marked as a language by its large number of what are traditionally called 'triliteral roots', roots represented by

¹ Gray, L.H., Introduction to Semitic Comparative Linguistics, pp.32-35.

² Robins, R.H., General Linguistics, An Introductory Survey, p.206; cf. Gray, op.cit., p.34.

³ Matthews, Inflectional Morphology, pp.63-64, 165.

a sequence of three consonants, from which different paradigm forms of variable words are made by the addition of one or more morphemes, represented discontinuously by prefixes, infixes, and suffixes, to the roots."¹

Multiliteral roots (of more than three radicals) are not common, but in nouns they are more than the biliterals (such as /ʔab/ 'father', /ʔax/ 'brother', /yad/ 'hand', etc.) which are not known in verbs as a class. the Semitists' belief that the triliteral roots are actually expansions of primitive biliterals, and that the 'geminate medial' type of verbs is actually an extension of a biliteral, meant to conform with the prevailing triliterals,² is a matter beyond the purpose of this discussion. But one may add in this connection the view of al-Farrāʔ, al-Kisāʔī and the Kufan grammarians in general - as against that of the Baṣrans in general - that no verbal or nominal root exceeds three letters. Any excess is an augmentation.³

The verbal construction is generally regarded as a highly complex entity, compared to the Arabic noun which has a simple case inflection. Nonetheless, the verbal forms are almost absolutely predictable because of the high regularity in their formations. Structure of the verbal form is a minimally twofold formation of a

¹ Robins, op.cit., p.210; cf. Sībawayhi, op.cit., 2, 336; and Ibn Jinnī, Al-Munṣif, 1, p.31f.

² Thacker, T.W., The Relationship of the Semitic and Egyptian Verbal Systems, p.82; cf. Gray, op.cit., p.34.

³ Al-Ḥadīdī, Kh. ʔabniyat al-ṣarf fī Kitāb Sībawayhi, p.91, cf. Al-Raḍī, Ṣarḥ Ṣāfiyat Ibn al-Ḥāḍib, 1, p.47; Sībawayhi, op.cit., 2 337.

verbal stem and a verbal paradigmatic set of pronominal affixes.

The verbal stem is an integration of two interlaced discontinuous morphemes: a consonantal root of three radicals (sometimes of more or even of less) expressing a constant lexical content, and a vocalic matrix (stem formative) expressing by itself or with some additional phonemes the various grammatical categories,

"the verb containing three root consonants is only a primary type or 'stem', and that there are usually a varying number of secondary stems in which the root consonants are accompanied by additional phonetic elements."¹

In the total structure of any Arabic verbal form, recognizability of the root constituent-elements is of an exceptional significance. And

"the only relevant criterion for establishing a part or the whole of a word as a single root is the impossibility of dividing it further into constituent morphemes by matching its parts with the parts of other words in the language."²

With established languages, lexicon is of course the best source of confirmation in this respect. In the written representation of Arabic, prominence and identifiability of the root consonants

"constitute a major argument against any reform of the Arabic - or for that matter, the Hebrew - system of writing which would blur this prominence by the insertion of short vowels or the doubling of consonants to show gemination."³

¹ Beeston, A.F.L., The Arabic Language Today, p.72.

² Robins, op.cit., p.207.

³ Smeaton, B. Hunter, 'Some Problems in the Description of Arabic', Word, 12 (1956) 357-68, p.364.

The root and its matrix are sometimes known as 'the primary morpheme' and 'the secondary morpheme' respectively,¹ but this should not be confused with the other verbal classification into a 'primary form' and a 'secondary form' referring to the 'basic' verb form and the form derived from it respectively.²

The pronominal affixes, which constitute an integral part of the paradigmatic formation of the verbal construction, are divisible into prefixes, suffixes and a combination of both. Predictability of the pronominal affix required is mainly determined by the aspectual form of the verb. As categorical signals, the contrasting sets of these affixes sometimes overlap in their representation of the variable categories (cumulation). Separate and conflated matrices were proposed to reflect this kind of possible overlapping,³ which is going to be considered as part of the 'personal pronouns' discussion.⁴

The canonical forms $C_1VC_2VC_3/$ - $C_1C_2VC_3$ are the underlying structures for the respective perfective/imperfective stem variants of CA. Accordingly, a root like k-t-b is intercalated with /a-a/ or /u/ to yield respectively the perfective /katab/ and the imperfective /-ktub/. Thus, both the root and the stem formative are required for

¹ Ibid., p.362.

² Altoma, op.cit., p.53; Abdo, Stress and Arabic Phonology, p.49.

³ See Pike, Kenneth, L. and Erickson, Barbara, 'Conflated Field Structures in Patawatomi and in Arabic', 1964, p.211.

⁴ See pp.314ff.

deriving the various related forms. As the stem vowels of both variants (perfective/imperfective) are not predictable from one another, but determinable by lexical consultation, some solutions were worked out for this purpose under the term 'base form' which is the following point under consideration.

5.1.2 THE VERBAL BASE FORM

Nothing like the 'infinitive' of English is established in Arabic. The 'verbal abstract' is not agreed upon by the Arab grammarians as the basis for generating all the theoretically possible derivational forms. In addition to the arguments stated by those grammarians, the characteristics that a verbal stem may provide for the derivation of such forms are not available in the 'verbal abstract' on its own. For this reason, both 'past' and 'present' tense forms (labels 'perfective/imperfective' are used instead in this grammar) were regarded as fundamental for the purpose. But this presents a difficulty, because it necessitates consulting a pair instead of a single item, since the two forms of 'past' and 'present' are not entirely predictable on the basis of comparing one to the other. To put it in other words, the vowel of the present tense and the second vowel of the past tense are not reliably predictable from one another. The 'past tense' form cannot do the job, because it needs the 'present tense' form for predicting some other derivational forms, and there is nothing that can predictably tell the 'present tense' form. If the result then is that neither the 'present' nor the 'past'

forms is capable of predicting by itself all the possible derivational forms of a root, then we need a 'base form' that satisfies this requirement, and provides Arabic with what is lacking compared to other languages. The artificial base form proposed here is meant to fulfil this condition.

In his article on an Arabic verbal base form,¹ Erickson criticises the selection of the 'third-person masculine singular of the perfective' (e.g. kataba 'wrote') as the 'base form' traditionally used for citation by the Arab grammarians. Justifiably he argues that, such a 'base form' is not recommendable because; first it provides more linguistic information than is desirable; secondly it assumes unsupportedly a grammatical priority for the 'perfective'; and thirdly it supplies no information as to the stem vowel of the 'imperfective', impairing thus the derivation of the full inflected forms of the verbal system which are supposed to be provided for by the grammar rules.

"A verbal base form must therefore provide information concerning the consonantal root and the aspectually variable stem vowels. Any additional information is superfluous in a base form."

On these grounds, he proceeds with his alternative proposal. But first he shows the invalidity of other artificial base forms used

¹ Erickson, John, L., 'The Establishment of a Verbal Base Form for Arabic', in Approaches in Linguistic Methodology, ed. by I. Rauch and C.T. Scott, p.28.

at times by some Arabists. For instance, instead of the conventional base form /kataba/, the stem vocalization is notationally determined after the verbal root, e.g. \sqrt{ktb} a/u 'write'. A second possibility is to append the alternative stem vowel to either the perfective or imperfective stem variant, e.g. katab - (u) or -ktub-(a). Although both possibilities meet the demands mentioned, the first has the drawback of being noncompact and unpronouncable as a form, and the second is noncompact and also has the problem of assigning priority to one of the two verbal aspects.

The alternative verbal base form that Erickson then advances in order to avoid the above-mentioned difficulties, is a special construction of "the consonantal root and a stem formative compounded of the two aspectual stem vowels", "e.g. \sqrt{ktb} plus a/u would yield the base form katub 'write'. A similar base form could be constructed for each verb".¹ The citation form 'katub', when co-occurring with the perfective paradigm (i.e. katub + perfective) would yield 'katab', and when co-occurring with the imperfective paradigm (i.e. katub + imperfective) would yield -ktub-. The base form vowels a/u indicate the stem vowels of the perfective and imperfective successively.

The advantages pointed out for such a serviceable base form are almost entirely indisputable.² Amongst these its exceptionally useful merit is perhaps the pedagogic one. It is the facility that this

¹ See ibid., p.29.

² See ibid., p.30f.

base form provides for teaching both Arabic to non-Arabic speakers and standard Arabic to nonstandard speakers; since as it is aspectually neutral, the problematic morphological ambiguity of predicting the opposite aspectual stem vowel is automatically resolved.

An opponent of this resolution of the question of 'base form' is Daud Abdo whose conviction is that,

"This solution is untenable. It amounts actually to positing two 'bases' for each verb, abbreviated in one in a rather strange way."¹

The point he is making here is perhaps that: dropping the second vowel of this 'base form' is not enough for deriving the perfective, as we have also to move the first vowel to the position of the second. But it is rather difficult to see even on economical basis, why this point should matter. The citation form that he proposes as a 'base form' against that of Erickson is - in addition to the difficulty of its pronunciation - based on the analysis of an Arabic dialect (Dialect of Mukabbir) which is obviously different from CA in its pattern formation. Compare for instance *ḍarab/yadrib* 'to hit' with such a statement about that dialect as "the present tense has always the structure $C_1C_2UC_3$ if the past is $C_1AC_2AC_3$ and one of the C's is emphatic".² This comparison immediately reflects how such morpho-phon^emic generalizations based on dialectical grounds may not apply to CA, in addition to the fact that this type of generalization is not

¹ Abdo, A.A., Stress and Arabic Phonology, p.59.

² Ibid., p.61.

very much different from the traditional one. Indeed, the scale of the survey carried out by the early Arab philologists to discover the entire span of the verbal patterns and their various aspectual contrasts, in order to produce for CA reasonably valid morphophonemic rules, is undoubtedly larger and more rigorous.

However, Erickson himself admits that his proposed 'base form' is artificial, but this - in his view - is defensible on grounds similar to those on which Arabists commonly accepted citations of the abstracted consonantal root which does not occur in the language, but whose citation and abstraction is illuminating for the description of Arabic. His argument could on similar grounds be supported by the traditional citation of the hypothetical formula 'qawama<qāma', which is also illuminating for the description of Arabic. A further advantage of his proposal is that it provides "for a more compact, economical, and useful primary verbal entry in the lexicon",¹ without impairing the arrangement of root consonants as the basis on which the Arab lexicon is compiled.

At any rate, the inevitability of the lexicon consultation at every phase of the work being undertaken (viz. the 'grammatical rules'), should involve no problem of formal ambiguity regarding the verbal aspectual patterns to arise. The 'lexeme' will be the basic unit in generating the variable grammatical rules. Therefore, the whole question of a 'base form' may now be put aside, in the hope that

¹ Ibid., p.31.

it may be settled sometime in the future. For the moment, as the proposed 'base form' is capable of providing for the derivation of all the attested Arabic verbal forms, once the required morphological and morphophonemic information is given, it may be economically useful to make use of it in the rule-devising whenever the two aspectual stems require to be simultaneously observed.

5.1.3 EMPTY MORPHS AND BASE FORMS

A significant point relevant to the 'Base Form' question is that of 'Empty morphs' as postulated in the perfective/imperfective contrast. The aspectual distinction is generally regarded as wholly grammatical (governed grammatically).¹ But in Arabic it could actually be interpreted as partly lexical, or - to coin a more appropriate term - 'phonolexical', i.e. its phonemic structure is determined lexically. Take for instance the following perfective/imperfective examples of verbs in their third person singular forms:

katab	ya-ktub	'to write'
sami ^ʕ	ya-sma ^ʕ	'to hear'
hasun	ya-hsun	'to become good'

Apart from the consonantal skeleton c₁-c₂-c₃ with the three values k-t-b, s-m-^ʕ and h-s-n, the only element in common is the prefix /ya-/ in the imperfective forms. The grammatical role of the prefix is

¹ Cf. Matthews, Morphology, p.131.

indicated by its regularity as a distinctive marker between the aspectual pairs. By the same token, the irregularity of the vowel variations in the patterns signals a nongrammatical, i.e. lexical or 'phonolexical' difference. This is of course bound to bring about the problem of having to resort to the disputable concept of 'empty morphs' (morphs with no meaning and belong to no morpheme) in order to account for the variable vowels of those patterns. Admitting the concept of 'empty morphs' for such an interpretation is also bound to violate the principle of 'total accountability' which requires for all the morphs and every bit of phonemic material to be predictable and determinable by the morphemes of the utterance.¹

The usual procedure for maintaining the 'accountability' principle in such a case is to resort to the submorphemic (phonemic) level so as to state the environment of occurrence in terms of phonemes that are part of morphemes instead of classes of morphemes;² but this is hardly feasible in our case where the vowels referred to are not surrounded by morphemes, but by the verbal root consonants. A consequently better way of looking at the 'empty morph' here is to interpret it in terms of WP where it should be conceived of as part of the relevant word which exhibits the categorical features in a way that covers all of its phonemic constituents.³

¹ Hockett, 'Problems of Morphemic Analysis', Language, 23 (1947) 321-343, p.332.

² Ibid., p.333.

³ Robins, R.H., 'In Defence of WP', Transactions of the Philological Society (1959) 116-144, p.134.

There is one further presumption which may dispense with the entire notion of 'empty morph' in the case under discussion. That is for us to regard the disputed vowels, which are part of the 'base form', as 'voice-markers'. Such an interpretation is supported by the fact that, apart from the prefix vowel (i.e. /a/ of /ya-/, the vowels under consideration are the only elements alterable for the sake of voice-determination.

5.1.4 THE VERBAL ROOT FORMATION

In addition to its general purpose of demonstrating the morphological structures of the Arabic verb, the information given under this heading is beneficial to the making and interpretation of a number of 'the grammatical rules' to come in the next chapter. To give an example, the function of the form VII as it is specified indicates that it is with respect to passive voice non-productive. This will automatically exclude it from the general grammatical rule (passive) which would otherwise appear to comprise all the augmented forms, e.g. Rules no. 2, 6, 9, 22, etc. of (The Actives and Passive Perfectives).¹

To put the statement in other words, any verbal form which is not caught by any of the rules, including the general one, should have its ungrammaticality accounted for among the forms presented here. However, the general attitude - as explained in one of the guiding notes² - is to make room for the derivation of any verbal form so as

¹ See pp. 368ff.

² See pp. 333f.

to allow for loan words to fit in when necessary, as well as for forms which are passive-wise non-productive except when they are part of a prepositional phrase.

Verbal roots of CA are traditionally classified according to the number (triliteral, quadriliteral, etc.) as well as to the types (weak, hamzated, etc.) of their phonemic formation. So far as the possible number of forms is concerned the Arabic verb is divided into: a triconsonantal stem and its augmented forms, and a quadriconsonantal stem and its augmented forms. The augmented phonemes are not radical in the stem, hence they are actually not part of the root. But they are apparently treated as such in terms of the possible perfective forms of these two divisions, since they signal no inflectional function at all, other than that of the perfective aspect. In other words, the augmentation is meant to express modifications in the central sense of the primary form, but not to play any grammatical role.

5.1.4.1 The Triconsonantal Roots

Under the influence of Wright's 'A Grammar of the Arabic Language' - which has become the standard authority since its translation from the German Caspari's 'Arabic Grammar' - a number of linguists seem to have chosen to stick to his list - in selection, number and order - of the triliteral verbal forms, which are generally known as verbal 'conjugations'.¹ As those 'conjugations' (i.e. forms or patterns) are

¹ See Wright, W., A Grammar of the Arabic Language, 1, pp.29ff., cf. Ferguson, op.cit., p.320; Schramm, G.M., 'An Outline of Classical Arabic Verb Structure', Language, 38 (1962) 360-75; Altoma, op.cit., p.53f.

adopted as they are in all the European lexicons, as Wright himself points out, I shall follow suit, except for some adjustments which I consider necessary in the number, order and interpretation of the verbal forms.

In this list, the conjugations (forms) are numbered one (primary form) to fifteen augmented forms, with the last four (except the XII) being referred to as of an extremely infrequent occurrence and therefore neglected in his comments. We may ask at this point why the number should be fifteen, while only ten are discussed. The major Arabic sources on the subject list over twenty-five forms (patterns) for the triliteral verb.¹ Those are divided into two groups:

(i) Mulḥaq which is a group of forms whose augmentation is intended only to increase the stock of Arabic words, "lil tawassu^ḡ fī alluḡah"² (i.e. it is not of a regular additive meaning in such forms), and is achieved by adding one consonant or more to a triliteral root to produce a form corresponding to a pure quadriliteral form (e.g. /jalbab/ 'to dress someone with jilbāb'), or corresponding to a larger word form (e.g. /tajalbab/ 'to dress oneself with a jilbāb').³

¹ See Al-Radī, Šarḥ Šāfiyat Ibn al-Ḥāḡib, 1, p.67ff; cf. Al-ʔuṣmūnī, Manḡaj al-Salik ilā Alfiyyat Ibn Mālik, ed. M.M. ʕabd al Ḥamīd, Cairo, 1955, vol.3, pp.787-88.

² See Ibn Jinnī, 'Al Munṣif', 1, p.34; cf. Al-Radī, op.cit., 1, p.52f.

³ Al-Ḥadīeī, op.cit., pp.403-405.

(ii) gayr Mulḥaq which is a group of forms whose augmentation is intended to produce a semantical addition to the original sense of the word. According to Sībawayhi and other Arabic sources,¹ members of this group are twelve patterns (in addition to the primary one), ordered according to the number and type of their augmented phonemes.

To avoid any terminological confusion, it should perhaps be made clear at this point, that the term 'conjugation' is usually used - perhaps mainly in Latin grammar - for the

"classification of a verb according to its inflectional forms for number, person and tense, etc.... sometimes used to refer to other categories of verbs, e.g. strong or irregular verbs such as English drink/drank/drank and weak or regular verbs such as walk/walked."²

But as our primary concern which is with the number and order of those forms takes no account of the inflection and gives only a brief account of the classification of verbal types, the underlined term 'stem-formative'* - which I shall henceforth use for this particular purpose - may be a better replacement for the term 'conjugation'.

Looking back at Wright's list, we find that in addition to these thirteen stem-formatives, the list includes two others for no apparent reason. Those two (?ic₁c₂anc₃ac₃a, ?ic₁c₂anc₃ā) are actually

¹ Al-Kitāb, 2, pp.360-64; cf. Astarābādī, op.cit., p.67.

² Dictionary of Language and Linguistics, p.48.

* For short, the term "Form" with the number of the stem-formative concerned is occasionally used, e.g. Form II, Form III, etc.

(B) Single-augmentation class:

cac_2c_2aca	II
$c\bar{a}caca$	III
?accaca	IV

(C) Double-augmentation class:

$tacac_2c_2aca$	V
$tac\bar{a}caca$	VI
?incacaca	VII
?ictacaca	VIII
?iccac ₃ c ₃ a	IX

(D) Triple-augmentation class:

?istaccaca	X
?icc\bar{a}c ₃ c ₃ a	XI
?icc ₂ awc ₂ ac ₃ a	XII
?iccawwaca	XIII

Class (A):

So far as the perfective aspect is concerned, the triliteral verbs are of three stem-vowel possibilities as shown in the primary forms I. But with consideration of both of the aspectual stems (i.e. perfective/imperfective), the possibilities are six vocalic patterns:

TABLE 5.B

PERFECTIVE AND IMPERFECTIVE PATTERNS
OF THE TRILITERAL VERB

	<u>Perfective (Pf)</u>	<u>Imperfective (If)</u>
1.	cacac	yaccuc
2.	cacac	yaccic
3.	cacac	yaccac
4.	cacic	yaccac
5.	cacic	yaccic
6.	cacuc	yaccuc

(i) Formal Observations: For the triliteral verb to be one of these patterns is not a matter of analogy. Nonetheless, an overall view of the lexical items led the Arab grammarians to some formal observations which are intended to offer a general guidance towards the predictability of some aspectual forms:

(a) With the pf (perfective) pattern cacac the If (imperfective) is expected to be yaccuc, e.g. /yanşur/ 'to help, aid', or yaccic, e.g. /yaḍrib/ 'to hit, strike' (i.e. it is optional to use either of the two patterns in quite a number of words, e.g. /yaḥsud/ or /yaḥsid/ 'to envy'), except when the second or third radical is a guttural, where the pattern expected is yaccac, e.g. yağhab 'to go'. A few exceptions are recorded as to this as well as to the statement that all verbs of the third pattern are of either a medial or a final guttural radical.¹

¹ Cf. Al-Raḍī, op.cit., 1, pp.115-25.

* "Guttural" here is equivalent to the Arabic hurūf al-ḥalq, which are the phonemes ʔ, ʕ, ħ, ʁ, ʕ and ʁ.

(b) Verbs of the pattern *cacac* are in most cases of the *If* form *yaccic* if the initial radical is /ʔ/ or /w/, e.g. /ʔasar/yaʔsir/ 'to capture', /wazan/yazin/ 'to weigh'. This is also the case with the intransitive geminate (doubled) verbs, e.g. /Xaffa/yaXiffu/ 'to become light'; while the transitive geminates are mostly of the *If* *yaccuc*, e.g. /madada/yamudud/ → /madda/yamuḍḍu/ 'to expand, stretch'.

(c) The fifth pattern (*cacic/yaccic*) is attested in no more than thirteen verbs in the language, all with /w/ in the initial position, e.g. *warie/yawrie* → *yarie* 'to inherit'; in addition to eleven verbs with an option of either *yaccic* or *yaccac*, e.g. /ḥasib/yaḥsi(a)b/ 'to reckon'.¹

(d) The various types of the trilateral verbs,² are divided into groups according to the patterns into which they can possibly be accommodated. This can be tabulated as follows; bearing in mind the restrictions that:

Of the initially weak^{*} verbs, the first pattern produced only one word (i.e. *wajad/yajud* 'to find') which is recorded as an odd usage in a line of verse attributed to Jarīr; otherwise this word is always used in the second pattern.

The medially weak verb of the first pattern could only be of a medial /w/, in contrast to that of the second pattern which could

¹ Al-Ḥamālawī, Ahmad, Šaḏā al-Ḥarf fī fann al-Šarf, 9th ed, Cairo, 1972, p.37.

² See 'Types of Verbal Roots', pp.257ff.

* For the term "weak" see p. 259 below.

only be of a medial /y/, with no restriction on the third pattern.
 Of this type of verb, only one word of the sixth pattern was recorded,
 i.e. ṭāla/yaṭūlu <ṭawula/yaṭwul/ 'to become tall'.¹

The same restrictions on the medially weak verbs of the first and second patterns apply to the finally weak verbs.

TABLE 5.C TYPES OF THE TRILITERAL VERBS AND THEIR PATTERNS

Verb Types	Verb Patterns in their Numbers					
	1	2	3	4	5	6
Geminate	Sarra	farra		ṣadḍa		
Initial-Hamzated	ʔaxaʕ	ʔasar	ʔahab	ʔamin		ʔaṣul
Medial-Hamzated		Waʔā	Saʔal	Saʔim		laʔum
Final-Hamzated	baraʔ	hanaʔ	qaraʔ	Ṣadiʔ		jaruʔ
Initial-Weak		walad	wahal	wajil	wariə	wasum
Medial-Weak	qāla	bāla	ḡayid			
Final-Weak	daṣā	ramā	Saṣā	raḍiya		Saruwa
Double-Weak (c ₁ - -c ₃)		wafā		wajiya	waliya	
Doubly-Weak (-c ₂ -c ₃)		rawā		qawiya		

¹ For a full discussion of this form see p.249.

(e) The medially weak verb whose medial is /ā/ in the pf and /w/ in the If is always of the first pattern (e.g. qāla/yaqūl/ 'to say'), with the exception of the verb /ṭāla/yaṭūl/ which is of the sixth pattern. If the two aspectual forms are of the medial /a/ and /ī/ respectively, they should be of the second pattern, e.g. /bā^ḥla/yabī^ḥ/ 'to sell'. And if both are of the medial /ā/, /y/ or /w/, they should be of the fourth pattern, e.g. /xāfa/yaxāf/ 'to fear', /ḡayida/yaḡyad/ 'to become soft, tender', /ḡawira/yaḡwar/ 'to loose one's eye'.

(f) The finally weak verb has the same restrictions as the medially weak verb so far as the first two patterns (i.e. first and second) are concerned, e.g. /da^ḥā/yad^ḥū/ 'to invite', ramā/yarmī/ 'to throw'. If the final in either of the aspectual forms is /ā/, /y/ or /w/, they should successively be of either the third pattern (e.g. /sa^ḥā/yas^ḥā/ 'to endeavour', the fifth pattern (e.g. /waliya/yalī/ 'to be in charge of'), or the sixth pattern (e.g. /saruwa/yasrū/ 'to become an honourable man'). If the final is /y/ in the pf and /ā/ in the If, the verb is then of the fourth pattern, e.g. /raḍiya/yarḍā/ 'to consent'.

(ii) Semantical Connotations

It is beyond the scope of this section to go into details about the characterization of the semantical connotations relevant to the variable verbal forms. Nonetheless, a brief account of the prominent

features in this connection may be of an exceptional value for the general purpose of the section.

Five of the six patterns are productive of both the transitive and the intransitive verbs, whereas the sixth pattern is restricted to the intransitive ones.¹ One transitive verb of the sixth pattern is recorded as an exception, viz. /raḥub/yarḥub/ 'to become wide' in the structure /raḥubatka al-dāru/ 'the house welcomes you'; but this was interpreted as being transitivized by changing its meaning to that of its transitive synonym /wasīla/.² However, the question of transitivity will be tackled later in this section and in order to save space the examples here will mostly be restricted to the intransitive ones. On the other hand, the six patterns are again divided according to the verbal semantical connotations which each can accommodate. In some cases semantical contrasts are displayed in the same pattern, while in others the same meaning is expressed in variant patterns. Unlike the traditional distribution of these semantical connotations which solely follows the order of the patterns, I intend to rearrange the distribution on semantical basis, viz. Semantical Contrasts, semantical correspondence and semantical restrictions.

(a) Semantical Contrasts: Verbs of contrasting meanings occur frequently in the same pattern. The following expository citations demonstrates some of those contrasts:

¹ Cf. Sībawayhi, op.cit., 2, pp.239f.

² Al-Radī, op.cit., 1, pp.74-76.

TABLE 5.D

THE SEMANTICAL CONTRASTS IN PATTERNS

<u>Contrasting Meanings</u>	<u>Pattern Numbers</u>	<u>Examples</u>
Stillness/Movement	1	{ Şabar/yaşbur 'to be patient' rakad / yarkuḍ 'to run'
	2	{ jalas/yajlis 'to sit' qafaz/yaqfiz 'to jump'
	4	{ labiə/yalbaə 'to stay, linger' naşit/yanşat 'to be lively, energetic'
Approaching/parting with	1	{ danā/yadnū 'to come near' nafar/yanfur 'to shun'
	2	{ jā? /yajī? 'to come' rajal/yarjil 'to return'
Cheerfulness/Misery	4	{ jašil/yajšal 'to rejoice exceedingly' Sa'im/ya'am 'to be tired of'
Easiness/difficulty		{ Salis/yaşlas 'to be docile' lasir/yalsar 'to be difficult, hard'
Bodily defects/merits		{ ḥadib/yaḥdab 'to be hunch- backed' hajil/yanjal 'to have large eyes'
Beauty/ugliness	6	{ nadur/yandur 'to flourish' qabuḥa/yaqbuh 'to become ugly'
Largeness/smallness		{ daxum/yadxum 'to be bulky' qaşur/yaqşur 'to become short'
Boldness/timidity		{ šajuḥ / yaşjuḥ 'to be brave' jabun/yajbun 'to be cowardly'
Speed/delay		{ saruḥ/yasruḥ 'to be quick' baṭu?/yabṭu? 'to be slow, tardy'
Eminence/lowness		{ šaruf/yaşruf 'to become noble' la'um/yal'um 'to be mean'
Wisdom/folly		{ halum/yahlum 'to be clement' xaruq/yaxruq 'to be foolish'

(b) Semantical Correspondence: Verbs of corresponding meanings occur frequently in discrete patterns:

TABLE 5.E THE SEMANTICAL CORRESPONDENCE IN PATTERNS

<u>Meaning</u>	<u>Pattern Number</u>	<u>Examples</u>
Hunger	{ 1 4	sagab/yasgub } 'to starve' ṭawiy/yaṭwā
Thirst	{ 1 2 4	nāḥ/yanūḥ garad/yaḡrid ṣadiya/yaṣdā
Sickness	{ 4 6	saqim/yaṣqam 'to become sick' ḥaqur/yaḥqur 'to become barren'
	{ 3 4	fazaḥ/yafzaḥ 'to become startled' jaziḥ/yajzaḥ 'to become restless'

(c) Semantical Restrictions: The variant patterns are generally associated with the following specific meanings:

TABLE 5.F THE SEMANTICAL RESTRICTIONS IN PATTERNS

<u>Pattern Number</u>	<u>Meaning</u>	<u>Examples</u>
1	{ Eminence	Samā/yasmū 'to become eminent'
2	{ Ageing Speediness in walk Descending morally Noise	Ṣāx/yaṢīx 'to become old' Xabb/yaxibb 'to amble' ḥall/yaḥill 'to be despised' jalab/yajlib 'to make noise'
3	{ Departure Quietness Joy Voice Pride	ḥahab/yaḥhab 'to go away' hadaʔ/yahdaʔ 'to calm down' mazah/yamzah 'to joke, jest' ṣarax/yasrax 'to scream' faxar/yafxar 'to pride oneself for'

4	{	Defect	ḥamiq/yahmaq 'to be foolish, silly'
		Rage	nāziq/yaṇzaq 'to be rash'
		Colour	ḥamir/yahmar 'to become red'
		Largeness	baṭin/yabṭan 'to have big belly'
		Tactfulness	labiq/yalbaq 'to be of refined manners'
		Confusion	ḥār/yahār 'to be puzzled'
6	{	Cleanness	ṭahur/yathur 'to be pure, clean'

(d) Remarks: As the semantical categorization here is based on an overall view of the Arabic verbs, exceptions are always expected to emerge as odd cases (such as the meaning 'largeness' in both (a) and (c)) which should not violate the general distribution. Also, the validity of this distribution should not be upset by the fact that some of the verbal examples may appear in two different If patternings, for choosing either of the two patterns is as valid as choosing the other.

Of the examples given, the weak and geminate verbs are realized in their ordinary pronunciations, e.g. samā/yasmū, Xabba/yaxibb, etc. In order to conform to the patterns they are assigned to, they should be traced back to their original phonemic representation by reversing the process of their phonemic alteration.

The semantical distribution here includes no examples for the fifth pattern, because verbs of this pattern are so diverse in meaning that it would be very difficult to categorize them semantically. Nonetheless, they are no exception to the general statement that all class (A) verbs may be changed to pattern 6 in order to express the concept of 'wonder and amazement', e.g. /samu^ḥla zaydun/ 'how marvellous

Zayd's hearing is'. There are however certain restrictions usually associated with the verbs of 'wonder and amazement' in general.¹

Class (B)

In this class and all the following classes, ordering of the stem formatives will follow the succession of the numbers (i.e. II, III, etc.) assigned to each at the outset, and their relevant semantical connotations will be presented at the same time.

II. cac_2c_2aca : The augment is the doubling (gemination) of the second radical (root consonant), which functions as a transitivizer. Any intransitive verb of the primary class becomes transitive in form II. If it is already transitive, it becomes doubly (or very rarely trebly) transitive or causative, e.g. /jalasa → jallasa/ 'to sit → to cause to sit', /ʿalima → ʿallama/ 'to know → to teach'. The original implication of form II is to signify 'intensity' of the action, whether in terms of violence, extensiveness or frequency, e.g. /qaṭaʿa → qaṭṭaʿa/ 'to cut → to cut in pieces'. Six other semantical correlations were also attributed to this form, but they may all relate in the end to the same original meaning.² Although verbs of form II are mainly transitive, a number of intransitive verbs are also recorded, e.g. /bakkara/yubakkir/ 'to rise early'.

¹ See Abū Ḥayyan, Manhaj as-Sālik fī al-Kalām ʿalā Alfīyyat Ibn Mālik, ed. Sidney Glazer, pp.374-79.

² See Al-Radī, op.cit., 1, pp.92-96.

III. cācaca: The augment is the lengthening of the first vowel which also functions as a transitivizer to the intransitive primary verbs, e.g. /jalasa → jālasa/ 'to sit → to sit beside another'. Although verbs in this form are mostly transitive, some stayed intransitive as they were in their primary forms, e.g. /sāfara/ 'to travel', /ʔāhara/ 'to support'. Its major implication is 'reciprocity' in any mutual effort, e.g. /ṣaraḷa → ṣāraḷa/ 'to throw down → to wrestle with', /kataba → kātaba/ 'to write → to correspond with'. But other implications are also recorded,¹ such as the sense of 'successiveness' in the verb /wālā/ as used in the phrase /wālā al-ṣawma/ 'made the days of fasting follow one another'.

IV. ʔaccaca: The augment is the hamza (glottal stop) /ʔ/ whose prefixation to the root causes the deletion of the first stem-vowel. It signifies 'transitivity' in a way similar to that of form II, e.g. /Xāfa → ʔaxāfa/ 'to fear → to frighten', /raʔā → ʔarā/ 'to see → to show'. No less than nine other implications are also attributed to this form, e.g. acquiring some quality, approaching a place, transference into a certain condition, obtaining something, entering upon a specific time etc.²

A great number of verbs with no recognised triliteral verbal origin are recorded in this form and in form II. They are usually

¹ Ibid., 1, pp.96-99.

² Ibid., 1, pp.83-92; cf. Sībawayhi, op.cit., 2, pp.247-51.

considered to have been derived from the nouns that are usually their direct objects, e.g. /ʔaəmara/ 'to bear fruit' from /əamar/ 'fruit', /jallada/ 'to use leather as for binding' from /jild/ 'leather'. Again the two forms (IV and II) usually give the same implication to the verb of their formation, e.g. /najā/ 'to escape' → /najjā, ʔanjā/ 'to set free'. Yet they may sometimes differ in this respect, e.g. /ʕalima/ 'to know' → /ʕallama/ 'to teach', /ʔaʕllama/ 'to inform'.

There are cases where the well established relationship between 'transitivity' and the form IV appears to be inconsistent. A few verbs, for instance, are used in this form both as transitive and intransitive, e.g. /ʔadāʔat al-nāru/ 'the fire gave light', /ʔadāʔat al nāru al-makāna/ 'the fire gave light to the place'.¹ More significant is that the augmented /ʔ/ is sometimes conversely used as an intransitivizer. Thirteen verbs of this type have been recorded, e.g. /kabba/ 'cause to fall', /ʔakkaba/ 'to fall'.² There are even cases where the prefixing of /ʔ/ seems to be completely functionless as it does not transitivize the verb, and furthermore the verb without it is more expressive of the meaning intended to be conveyed, e.g. /ʔasraʕ/ 'to hurry up' and /ʔbṭaʔa/ 'to slow down' are less expressive than their pairs /sarūʕa, baṭuʔa/ whose pattern usually expresses an innate quality. This may not seem logical, but language cannot perhaps be expected to be logical at all times.

¹ Al-Ḥadīṭī, op.cit., p.393.

² Al-Ḥamalāwī, op.cit., p.42.

At this point the question is usually posed as to whether moulding verbs in these various patterns is a matter of analogy or should be limited to the usage recorded in the Arabic lexicon. The general attitude is that it is analogical only in the case of patterns with copious examples in the lexical usage.¹

Class (C)

V. $\text{tacac}_2\text{c}_2\text{aca}$: The augment is the gemination of radical c_2 , with the syllable /ta/ prefixed to the root. As this stem formative is usually derived from the stem formative II, it combines with the sense of 'intensiveness' the reflexive force introduced by the prefixed syllable /ta/. Although 'reflexiveness' is the main contribution of this form additive to the sense of 'intensiveness' in form II, it is not always very distinctive; whereas the sense of 'intensiveness' is detectable in every verb of form V, e.g. both senses are expressed in the verbs /farraqa → tafarraqa/ 'to disperse → to be dispersed', but 'reflexiveness' is not clear in verbs like /takallama/ 'to speak' or /taqaṣṣā/ 'to investigate thoroughly'.

However, the main implication conveyed by this form is to express 'submission' of the object of form II verb to the action inflicted by that verb, e.g. /kassara → takassara/ 'smash up → smash oneself'. But quite a number of other meanings are also expressed in verbs of this form, e.g. 'relation' /taqayyasa/ 'to side with the tribe

¹ See Al-Raḍī, op.cit., 1, pp.84f.

Qays', avoidance /taʔaəəama/ 'to avoid sin', attempt /tahallama/ 'to try acquiring clemency', repetition /tabaṣṣara/ 'to look or examine repeatedly', etc.

VI. tacācaca: The augment is a prefixed /ta/ and the lengthening of the first vowel. Verbs of this form are reflexives of those of form III from which they are actually derived. They are reciprocals in the sense that they express mutuality in the effort, so that the object of form III is included among their subjects, e.g. /Xāṣama taxāṣama/ 'to dispute or quarrel with → to quarrel with one another'. Thus each of the two subjects is actually an object. In the example given, the transitive verb of form III becomes intransitive in form VI; and if it were a doubly transitive verb, it would be reduced to a single object, e.g. /jāḡabahu al-əawba tajāḡabā al-əawba/ 'he laboured pull - the garment from him → the two laboured pulling the garment from each other'. To comply with the conditional reciprocity in this form, the verb must have no less than two subjects, or a collective singular one, e.g. /tatābalat al-ʔaxbāru/ 'the news followed one another'.

Other semantical connotations of this stem formative are: pretence /tajāhala/ 'pretend to be ignorant of', grading of occurrence /tawāradat al-ʔibilu/ 'the camels arrived in succession', etc. Although reciprocity may not always project itself in such examples, it can always be somehow detected.

VII. ʔincacaca: It is derived from the primary class verbs by the prefixation of the syllable /ʔin/ of which the segment /ʔ/ is introduced when preceded by a consonant or silence in order to facilitate pronunciation, i.e. to avoid an initial consonant cluster which is phonologically unacceptable in Arabic. In terms of the grammatical tradition deriving from Sībawayhi this hamza and that of the following forms is regarded as an augmentation and is thus treated as such here. It is thus a reflexive of the given primary verb whose direct object is always contained as a pronoun in this form. Therefore it is semantically thought of as a passive of the primary class verbs, or as "more nearly to a passive",¹ or "sometimes just vaguely non-active".²

Reflexivity in the primary class verbs is restricted to those that express labouring or physical effort. As the stem formative VII is reflexive of the primary class verbs, the restriction equally applies to its formation. One can say /kasartuhu/ fa-(ʔi)nkasara/ 'I broke it, and so it became broken'; but it is wrong to say /ṭaradtuhu/ fa-(ʔi)nṭar^ada/. what is recorded is /ṭaradtuhu/fa-ṣahaba/ 'I asked him to go, and so he went'. It is also rarely used as a reflexive of form IV, e.g. /ʔazlajtuhu/fa-(ʔi)nzaḷaja/ 'I disturbed him, and so he became disturbed'.³

¹ Wright, op.cit., 1, pp.40f.

² Schramm, op.cit., p.361.

³ See Al-Radī, op.cit., 1, p.108; cf. Sībawayhi, op.cit., 2, pp.252f.

VIII. ?ictacaca: The augment is a /t/ infixed between the first and second radicals, and a hamzah /ʔi/ prefixed to facilitate pronunciation. This form is sometimes like form VII reflexive of the primary class verbs, and it expresses submission of the direct objects of those primary class verbs, and it expresses submission of the direct objects of those verbs, e.g. /ḡamamtuhu/ fa-(ʔi)ḡtamma/ 'I depressed him, and so he became depressed'. But as this is mainly a function of form VII, it is restricted in the case of form VIII to verbs whose initials are either /l/, /r/, /w/, /n/ or /m/. The reason for this is purely phonetic, since /h/ of form VII is the basic indicator of reflexivity, not /t/ of form VIII, but since it would have to be assimilated to those five consonants and subsequently disappear this function is transferred in such cases to form VIII, e.g. /laʔama/ → /ʔiltaʔama/ 'to heal (a wound)', but not /ʔinlaʔama/. In exceptional cases verbs of such initials are recorded in form VII as a prior option, e.g. /ʔinmaḥā → immahā/ 'to be rubbed out', but the other option keeps the general practice valid.¹

There are a few examples where form VIII seems to have no triliteral verbal origin, e.g. /ʔirtajala al-xuṭbata/ 'to orate without preparation', and in some cases it is used side by side with the triliteral verb with no apparent semantical difference, e.g. /Xaṭafa = ʔixtaṭafa/ 'to snatch away'. It is also used in rare occasions as a reflexive of form IV, e.g. /ʔanṣaftuhu fa-(ʔi)ntaṣafa/ 'I treated him fairly so he was treated fairly', and in some cases shares with form VI the function of signifying 'reciprocity', e.g. /ʔixtaṣamā =

¹ Al-Radī, ibid., 1, p.108f.

taxāṣamā/ 'they disputed with one another', /ʔijṭawarā = tajāwarā/
'the two became neighbours'.

Other implications are also associated with this form.

As an example, the meaning: effort making will serve well as it signals a rhetorical feature in the following quotation. To express the fact that a person will be rewarded for all his good deeds in the hereafter, but as for the bad deeds he is to be punished only for the ones which he intentionally committed, the Qurʾān states: /lahā mā kasabat wa ʕalayhā ma (ʔi)ktasabat/ "to one's soul is what it earned, and against it (ʕalayhā) is what it obtained with endeavours". Thus /kasaba/ 'to earn or get', but /ʔiktasaba/ is 'to obtain through effort making'.¹

IX. ʔiccac₃c₃a: The augment is the gemination of the root-final, with the prefixation of the hamzah /ʔi/. Whenever used, it is intransitive, and it is used to express 'colours' or 'defects', with an 'intensiveness' signification, e.g. /ʔihmarra/ 'to become red', /ʔiṭwajja/ 'to become crooked'.

Class (D):

X. ʔistaccaca: The augment is a prefixed cluster /st/, which necessitates the usual pronunciatonal /ʔi/ as a third element of augmentation. As a result of this the first stem-vowel is shifted back to precede c₁.

¹ Ibid., 1, p.110.

This form often expresses demand or request, e.g.

/ʔistaʔʕana/ 'to ask for permission', /ʔistaḡāea/ 'to call for help'.

But it may express other implications such as change in quality (e.g.

/ʔistaḥjara/ 'changed to stoniness (of clay)), or some other relevant meanings.

Sometimes this form is a reflexive of form IV, e.g.

/ʔaḥkama → fa(ʔi)staḥkama/ 'to make perfect'. In other cases it

appears to be neutral to form IV, or even the primary form I, in the sense that it adds nothing to its meaning or signification, e.g.

/ʔajāba = ʔistajāba/ 'to answer', /qarra = ʔistaqarra/ 'to settle'.

But a close examination of such examples can always reveal the

reflexivity of form X, e.g. /qāma/ 'to stand up', whereas /ʔistaqāma/ is 'to hold oneself upright'.

XI. ʔiccāc₃c₃a: The construction of this form is the same as that of form IX, plus the lengthening of the stem-vowel /a/. Some grammarians distinguish between the two forms in that form IX indicates permanent colours or qualities, while form XI indicates those that are transitory. But as they actually could be reversed in usage, Wright¹ holds the view that the two forms are indistinguishable in terms of sense, e.g. /ʔiṣhabba → ʔiṣhābba/ 'to become gray'. Also 'intransitivity' is a feature of verbs in both forms.

¹ Op.cit., 1, p.44; cf. Al-Raḍī, ibid., 1, p.112.

XII. $?icc_2awc_2ac_3a$: The augment is the doubling of c_2 with an intervening /w/, and a hamzah /ʔi/ prefixed to the root. Verbs in this form indicate intensiveness and abundance in the quality or quantity of what is expressed by the primary verb, e.g. /ʔiḡdawdana/ 'to become blackish green (of plant), dark and soft (of hair)'; /ʔiḡsawṣaba/ 'to become luxuriantly prolific of herbage (of land)!'.¹

XIII. $?iccawwaca$: The augment is a geminated /w/ infixed between the first and third radicals, and a hamzah /ʔi/ prefixed to the root. Verbs in this form are always of the augmented type, i.e. none of them has a triliteral verb of the same meaning as its origin, e.g. /ʔijlawwaṣa/ 'to speed up walking (of a horse), to last long (of rain)', /ʔiḡllawwata/ 'to mount a camel'.²

5.1.4.2 The Quadriconsonantal Roots

Again we restrict our discussion here, as we did with the triliteral verbs and for the same reasons, to the primary form and its augmented formations (i.e. the group mulhaq is excluded) which are four in all, numbered as a continuation to the preceding ones thus:

XIV. $cacc_3ac_3a$, XV. $tacacc_3ac_3a$, XVI. $?iccanc_3ac_3a$, XVII. $?iccac_3ac_3c_3a$. Of the three augmented forms here, form XV represents a class of single augmentation, whereas forms XVI and XVII represent another class of double augmentation.

¹ Al-Raḍī, ibid., 1, p.112; cf. Al-Ḥaḍīṯī, op.cit., p.415.

² Loc.cit.

XIV. $cacc_3ac_3a$ (The Primary Class): verbs of this formation vary in terms of the stem of their derivation:

(1) Formations that are originally quadriconsonantal, e.g. /dahraj/ 'to roll', /ba^clear/ 'to scatter', /darbax/ 'to submit', etc.

(2) Formations of originally biliteral roots, doubled to express sound or movement, e.g. /gargara/ 'to gargle', /zalzal/ 'to shake (as with earthquakes)', etc.

(3) Formations from primary nouns, that are sometimes loan-words, of more than three letters, e.g. /qalnasa/ 'to put on the qalansuwah (i.e. cap)'. This type of formation is used to indicate a number of accusative relations between the object and the primary noun from which this verbal form is derived, e.g. /falfala/ 'to put black pepper in (of food)', /qamṭara/ 'to bind (of book)', /jalbaba/ 'to dress with jilbāb (i.e. garment)', etc.

(4) Formations from phrases in common usage, shortened into combinations of their most prominent syllables or letters, e.g. /basmala/ 'to say bismi Allāhi (i.e. in the name of God)', /ḥawqala/ 'to say lā ḥawla wa la quwwata ʾillā billāhi (i.e. no power and no strength save in God'.

Over seven forms (equivalent to group (i) mulḥaq of the triliteral) were also annexed to this primary form XIV as formations whose verbs should derivationally behave in the same manner as it does.

The examples /qalnasa : cacnaca/ and /ḥawqala : cawcaca/ belong to these annexed forms, which are not however regarded as mulḥaq in this case.

XV. tacacc₃ac₃a: The augment is a prefixed /ta/. Verbs of this formation are reflexives of those of the primary form, e.g. /daḥraja → tadaḥraja/ 'to roll along', /zalzala → tazalzala/ 'to shake oneself', etc. This form apparently corresponds in formation to form V of the triliteral, but the doubled radical here is the third whereas in form V it is the second.

XVI. ?iccanc₃ac₃a: The augment is /ʔi/, and the infixation of the consonant /n/, e.g. /ʔiḥranjama/ 'to be gathered in a group', /ʔifranqa^Ḡla/ 'to be scattered', etc. Here again a correspondence exists between this form and form VII of the triliteral verbs in that both have /ʔ/ and /n/ as augmentation, with the difference that the /n/ is here an infix while in the former case it is a prefix.

XVII. ?iccac₃ac₃c₃a: The augment is a prefixed hamzah (syllable /ʔi/), plus the gemination of the final radical. This form is intransitive and it expresses intensiveness in state or quality, e.g. /ʔiṭmaʔanna/ 'to be reconciled'. /ʔiqṣa^Ḡlarra/ 'to shudder with horror'. But some verbs are primarily - rather than for the purpose of intensiveness - formed in this construction, e.g. /ʔiṣmaʔazza/ 'to shudder with repugnance'. Also this form corresponds in augmentation to form IX with a difference in the positioning of gemination, viz. the geminated radical is here the fourth, while in the former case it is the third.

Annexed to these augmented forms of the 'quadriconsonantal verb' are:¹

(1) Six of the singly augmented forms, which are not as rare in usage as their equivalent in the triliteral (i.e. group (i) Mulhaq), e.g. /tamaskana/ 'to look poor', /tajawraba/ 'to wear boots'. But again - adopting Wright's attitude² - we need not bring any of them up, unless it is absolutely necessary.

(2) Two (four in other views) of the doubly augmented forms, which are archaic and very rarely used, e.g. /ʔiq^ḥlansasa/, 'to draw back' /ʔislanqā/ 'to throw one's self back'.

An overall view of the seventeen stem formatives shows that, with the exception of the regular prefixation of the hamzah (syllable /ʔa/) as a transitivizer to the intransitive triconsonantal verbs, matters of augmentation are mainly dependent on samā^ḥ (what is preserved in the Arabic lexicon) rather than on analogy.³

5.1.4.3 Types of Verbal Roots

With respect to the phonemic formation of the Root, Arabic verbs are divided into two major types, each of which has its own subdivisions:

¹ See Al-Ḥamalāwī, op.cit., pp.39f.; Sībawayhi, op.cit., 2, p.365; Al-Ḥadīṯī, op.cit., pp.404f.; Ibn Jinnī, Al Munṣif, 1, pp.84-89; Al-Raḍī, op.cit., 1, pp.113f.

² Wright, op.cit., 1, pp.29,48f.

³ Al-Ḥamalāwī, op.cit., p.40; Al-Raḍī, op.cit., 1, pp.86f.

(i) Strong Verbs: Those are the verbs of which no radical is a /w/ or /y/. They are divided into: 'sound', 'geminate' and 'hamzated' verbs:

(1) Sound verbs are those whose radicals are never subjected to change or rejection at any inflectional stage. Thus they differ in characteristics from the other three types, both in the phonemic structure of their stems and in their paradigmatic formation. The verbal examples of the preceding stem formatives are mostly of this type, e.g. /jalas/ 'to sit', /dahraj/ 'to roll'.

(2) Geminate verbs are those of the triconsonantal type whose second and third radicals are identical, e.g. /madda/ 'to extend'; or those of the quadriconsonantal type whose first radical is identical with the third, and the second is identical with the fourth, e.g. /hamhama/ 'to neigh'. The geminate forms may undergo phonemic changes when their radicals include the usually alterable ones (i.e. /?/. /w/. /y/). But generally they are in this grammar subjected to either an operation of 'expansion' (symbolized by exp), e.g. taking the contracted form of the verb as the basic lexeme, the 'formation component' will be of the representation exp. s¹ + tu for /ladad-tu/ 'I counted'; or an operation of 'contraction' (symbolized by con), e.g. the 'formation component' will be of the representation con, s² + a for /mudda/ 'was extended' which is according to the passive formation of the triliteral is of the original form /mudida/. As for the quadriconsonantal verbs the geminate (doubled) type behaves grammatically like the sound verbs.

(3) Hamzated verbs are those with hamzah 'glottal stop' /ʔ/ as one of their radicals. They are divided into three kinds according to the position of /ʔ/ which may occur initially (e.g. /ʔakala/ 'to eat'), medially (e.g. /saʔala/ 'to ask' or finally (e.g. /qaraʔa/ 'to read'. For the quadriconsonantal, the hamzah /ʔ/ never occur initially as a radical but it may occur medially or finally as in /baʔbaʔ/ 'to say (bi - ʔabī) for a vow', /rahyaʔ/ 'to show readiness for raining (of clouds)'.¹ Hamzated verbs sometimes undergo phonemic changes, as they may also have the weak verb feature of /w/ or /y/ among their radicals.

(ii) Weak Verbs (Defective): Those are the verbs of which one (or two) of the radicals is a /w/ or /y/ (or an ʔalif /ā/ according to some views)*. In this respect and for this reason they differ phonologically and inflectionally from the strong verbs in general, but particularly they differ from the 'sound verbs' in always having one of the radicals subject to elision or alteration.

Weak verbs are of four different kinds, varying according to the position of the approximant (/w/ or /y/), being initial, medial, final, or a combination of the final position with the initial or the medial:

¹ Cf. Al-Radī, op.cit., 1, p.32; Al-Ḥadīdī, op.cit., pp.411,417.

* The ʔalif /ā/ is considered the third phoneme that distinguishes the weak verbs, but in practice it is in all cases - whether it occurs medially or finally - a transformation from an original /w/ or /y/, e.g. /qawama < qāma/ 'to stand', /ḡayaba < ḡāba/ 'to be absent'. [See a discussion of the dual morphological role of the Arabic /w/ and /y/ in: Smeaton, Hunter, 'Some Problems in the Description of Arabic', Word, 12 (1956) 357-68, pp.65-67].

(1) Initial-weak verbs: Those are grouped into a class of w-verbs, e.g. /waʕad/ 'to promise', and another of y-verbs, e.g. /yasar/ 'to become gentle, easy'.

(2) Medial-weak verbs: Those are sometimes known as hollow verbs, and they also have the same two classes of w-verbs, e.g. /qawala < qāla/ 'to say', and y-verbs, e.g. /bayaʕa < bāʕa/ 'to sell'. With certain patterns the /w/ and /y/ are retained untransformed, e.g. /ʕawiza/ 'to be in need', /hayifa/ 'to have a slender waist'.

(3) Final-weak verbs: Again this group is divisible into w-verbs, e.g. /ʕazawa < ʕazā/ 'to make a raid', and y-verbs, e.g. /ramaya < ramā/ 'to throw'. Of this type also, certain patterns retain the /w/ and /y/ untransformed, e.g. /saruwa/ 'to be noble', /Xaziya/ 'to be ashamed'.

(4) Doubly-weak verbs: Those are classified into two groups: (a) verbs with /w/ and/or /y/ occurring simultaneously in the initial and the final positions, e.g. /waliya/ 'to be next to', /waqaya < waqā/ 'to guard'. (b) Verbs with /w/ and/or /y/ occurring simultaneously in the medial and final positions, e.g. /qawiya/ 'to be strong', /ʕayiya/ 'to have difficulty in speech'.

A characteristic feature of all the four divisions stated, is the special alterations associated with 'weak' roots in general. Of those alterations, the one operating on the medial-weak roots have led to an exceptionally striking dispute.

This dispute is about the validity of the formula {qawama → qāma}; which is a convention taken for granted in the traditional Arabic grammar, and formulated in the rule {a + w(y) + vowel → ā} which is to be verbalized as: 'a /w/ or /y/ is to be transformed into /ā/ when preceded by /a/ and followed by another vowel'. Two recent views that deserve more discussion in this connection are perhaps those of Ferguson and Šāhīn.

In his review of L'arabe Classique, Ferguson¹ argues that: "This formula, although valid from some points of view, is misleading as it stands. There is very little evidence that a form qawama ever existed in Arabic"; and then adds that neither semitic nor other Hamito-semitic languages provide any support in this respect.

The main point in this argument is that there is no ground for the implicit sense of historicity in the formula. But the traditional grammar of Arabic does not seem to be always making such a claim. It is true that a scientifically minded grammarian may sometimes tend to imply historicity in his interpretation of such a formula. Ibn Jinnī,² for instance, accounts for the alteration in the formula {qāma < qawama} or {baā < bayā} by the speaker's intention of avoiding the positional coincidence of vowels and approximants (semi-vowels) for the sake of vocalic harmony. But this is not always the case. The

¹ Charles A. Ferguson, Review of L'arabe Classique: Esquisse d'une Structure Linguistique. Par Henri Fleisch', Language, 34:2 (1958) 314-21.

² See al-munṣif, 2, p.116; cf. Al-Karouri, Abdumuneim M., Al-Daxīlfī al-luġah al-ʿarabiyyah: Dirāsaṭahlīliyyah fī dawʿ ʿilm al-luġah al-Ḥadīṯ, M.A. Thesis, University of Khartoum, 1970, pp.791ff.

grammarians' general attitude regarding the interpretation of such a formula seems to be based on a criterion of comparison among the various relevant lexical items. That is why a number of conditions are laid down for the application of the mentioned rule, e.g. the rule should not apply if the medial-weak verb concerned is of the pattern *cacic* and its relevant adjective is of the pattern *?accac*, e.g. */hayifa/* 'to have a slender waist', */ʔahyaf/* 'slender', */lawira/* 'to loose one's eye', */ʔalwar/* 'one-eyed'.¹ A different example of this attitude among the Arab grammarians is their tendency to interpret certain items in the light of others even when the formal relation appears to be rather remote, e.g. the */m/* of */fam/* 'mouth' is for them a replacement of an original */w/*. This is based on a comparison between this word and another lexical item which is its plural, i.e. */ʔafwāh/*.²

However, the common ground - regarding the formula under discussion - is the postulation of a 'base form' whose actualization (e.g. *qawama* < *qāma*) is mainly dependent on a lexical comparability. This is compatible with the notion of the hypothetical 'base' (i.e. *qawama*) which Ferguson³ accepts as one convenient way of describing the existent form (i.e. *qāma*), provided that it

"must not be interpreted in historical terms;
it is a purely synchronic statement, applicable
even to forms such as loan-words or new
formations, where the hypothetical base is known
never to have existed."

As for *Ṣāhīn*,⁴ the formula as it is verbalized in the grammatical rule cited above is totally rejected on different grounds.

¹ *Al-Ḥamalāwī*, op.cit., pp.155f.

² Ibid., p.158.

³ Loc.cit.

⁴ *Ṣāhīn*, *ʿAbd al-Ṣabūr*, al-Manhaj al-ṣawtī lil-binyah al-ʿarabiyyah, pp.38,82f.

His basic argument is that this grammatical rule as it exists assigns vowels to the phonemes /w/ and /y/ which are nothing but ʔinzilāq 'glide' resulting from the vowels embracing each, i.e. they have no existence of their own in such examples. Thus writing these examples as they should be in the forms: /qa-u-ala/ and /ba-i-a^ʕla/ would result in the syllabic forms: /qa/ua/la/ and /ba/ia/^ʕla/ with the medial syllable being formed of doubled vowels, which is against the nature of the syllabic formation in the Arabic language. Therefore /u/ and /i/ being the cause of this problem were elided to result in the long vowel formation /ā/ in /qāla/ and /bā^ʕla/. The third pattern related to this is that of the verb /Xāfa/ 'to fear' which is originally of the syllabic formation /Xa/ui/fa/. In this case both /u/ and /i/ in the middle have to be elided, because the existence of either would result in a pattern foreign to the Arabic verb. The form /Xāfa/ is then obtained by a prolongation of the stem-vowel /a/ into an /ā/ in harmony with the other verbs of the group.

On the same grounds, Šāhīn rejected the same traditional rule as applied to the final-weak verbs, which are of the four patterns:

TABLE 5.G		PATTERNS OF THE FOUR FINAL-WEAK VERBS		
<u>Pattern</u>		<u>Lexeme</u>	<u>Vpf,3,sg</u>	
1.	c ₁ ac ₂ aw ₃	ġazaw	→ ġazā	'to invade'
2.	c ₁ ac ₂ ay ₃	ramay	→ ramā	'to throw'
3.	c ₁ ac ₂ uw ₃	Saruw	→ Saruwa	'to become noble'
4.	c ₁ ac ₂ iy ₃	raḍiy	→ raḍiya	'to consent to'

As it is against the nature of the Arabic syllabic formation¹ (perhaps other languages too) to have a syllable formed of two vowels, or

¹ Ibid., pp.38-40.

of a sequence of three vowels. Šāhīn proposes the following transformational stages for the first two verbal forms:

Figure 5.A The Alteration Stages of the Final-weak Verbs

1. ġa/za/u-a ———>ġa/zaa —————>ġazā
2. ra/ma/i-a ———>ra/maa —————>ramā

The problem here is that a contrast might appear to exist between this staging of formation by Šāhīn, and our proposal that the final /a/ attached to any lexeme is the exponent for the 'third person sing.'. This is because the change of /w/ and /y/ into /ā/ in these two patterns is - unlike the case with the medial-weak forms - only attainable through taking into consideration that lexeme-final fathah /a/, which is usually associated with every verbal entry in the Arabic lexicon.

A closer examination however reveals that this contrast is only superficial, and more significantly confirms - although with some differences in interpretation of the following phonemic changes - both Šāhīn's idea and ours. Looking at the entire paradigmatic set of each of the verbs in the first and second patterns (i.e. /ġazaw/ and /ramay/), we will see that the change which occurs with the 'third person sing.' formation, recurs only when /w/ or /y/ is followed by /a/ (i.e. in three other paradigmatic formations); and that is how both the ideas are confirmed. To write those other paradigmatic formations according to our interpretation, the following formal manner may be helpful in reflecting the sequential transformational stages:

Figure 5.B The Alternative Stages for Three of the Final-
Weak Verbs

	<u>Lexeme</u>
1. [Vpf, 3, sg, f]	{ ġazaw → ġazaw-at → ġaza-at → ġazāt → ġazat ramay → ramay-at → rama-at → ramāt → ramat
2. [Vpf, 3, d, f]	{ ġazaw → ġazaw-atā → ġaza-atā → ġazātā → ġazatā ramay → ramay-atā → rama-atā → ramātā → ramatā
3. [Vpf, 3, d]	{ ġazaw → ġazaw-ā → ġaza-ā → ġazā → ġaza-aw-ā → ġazawā ramay → ramay-ā → rama-ā → ramā → ram-ay-ā → ramayā

In formation (1), the vowel /ā/ is shortened to /a/ in the final stage to keep the usual form /at/ of the fem. suffix. In formation (2), the prefinal /ā/ is reduced to /a/ for the same reason (the usual fem. suffix for dual is /atā/), and also because of the fact that an Arabic syllable of the closed form CVVC is only allowable in a terminal pausal position. In formation (3), the diphthong /aw/ is restored in the final stage to avoid confusion with the singular formation /ġāzā/. Sometimes, language resorts to such means in order to settle an inflectional problem or the like.¹

One objection to all this is perhaps the third, plural formation, where the process referred to in these three formations does not seem to be workable. But the fact is that this formation would also fall in line - in terms of the mentioned process - with the three others, once

¹ Cf. the imperfective emphatic case (*ibid.*, p.39), where a non-terminal syllable of the form cvvc is allowed in the dual /yan/su/ raan/ni/ to avoid confusion with the sing. form of the same word.

we have realised that its closing diphthong /aw/ or /ay/ is not that of the lexeme but a transformation of the plural suffix /ū/, as one can see in the following transformational stages:¹

Figure 5.C The Alternative Stages for the Fourth Final-Weak Verb

4. [Vpf, 3, pl] { ġazaw → ġazaw-ū → ġaza-ū → ġazaū → ġazaw
ramay → ramay-ū → rama-ū → ramaū → ramaw

As for the third and fourth patterns of the final-weak verbs (i.e. $c_1ac_2uw_3$ and $c_1ac_2iy_3$), they are traditionally committed - with the exception of their plural formations - to the same inflectional behaviour as the sound verbs, because their final /w/ and /y/, being preceded by /u/ and /i/ respectively, are not alterable into /ā/. Practically they are actually of three different inflectional settings:²

(1) No elision of the third radical (/w/ or /y/): in the third person formations, with the exception of the plural ones, e.g. /saruwā/, /raḍiyā/. etc.

(2) Elision of the third radical (/w/ or /y/) and its preceding vowel: in the third person formation for (masc.) plural, e.g. /sarū/, /raḍū/ etc.

(3) Elision of the third radical (/w/ or /y/) with a compensational prolongation of the preceding vowel: in the remaining formations, e.g. /Sarūta/. /sarūna/. /raḍīta/. /raḍīna/. etc.

¹ An interpretation that differs with our mentioned proposal is given here by Šāhīn (*ibid.*, p.42), taking the singular formation, not the lexeme, as the basis for derivation.

² Cf. Šāhīn, *ibid.*, pp.89f.

However, despite the importance of the contrasting views of Ferguson and Šāhīn, it is of vital significance here to acknowledge - for the time being - the traditional hypothetical base form of weak verbs for the sake of the construction of our grammatical rules. In other words forms of weak verbs will be represented when required in the 'limitation component' by their roots, with the hypothetical /w/ and /y/ being untransformed. This representation of the 'limitation component' is of exceptional significance in the case of weak verbs which undergo a number of operations (e.g. prolongation, curtailment, vocalic replacement) which are characteristic of this type of verb.

5.1.5 THE TRANSITIVE/INTRANSITIVE DICHOTOMY

The question of transitivity (ta^ḡldiya) is a syntactical one, which as such may be deemed as beyond the domain of morphology. Nonetheless, this question has a morphological aspect, as indicated by the fact that a verb may be altered from an intransitive to a transitive one through internal processes, e.g. gemination.

Under this heading, verbs are divisible into: (i) Transitive which are those that directly govern their object in the accusative, e.g. /ʔanʕara al-^ḡlulamāʔ qawmahum/ 'the scholars warned their people; and (ii) Intransitive which are those that require no object, e.g. /Šarufa al-rajula/ 'the man became noble', or can only be construed with their objects by means of prepositions, e.g. /ʔittajahtu ʔilā Allāhi/ 'I turned my face to God'.¹ The validity of this dichotomy should be affected neither by the fact that some transitive verbs are - perhaps for some

¹ Cf. Al-Radī, op.cit., 1, p.86.

semantical reason - alternatively construed with prepositions in the accusative phrase, e.g. /jāʔa ʔatā/ 'to come', /naṣaḥa/ 'to advise' (the preposition /ʔilā/ 'to' could be used with each of these three verbs), etc.; nor by the fact that the group of /kāna/-verbs (kāna wa ʔaxawātuha) are functionally unassignable to either group.

Some of the preceding verbal stem formatives as well as some of the semantical implications are consistently restricted to intransitive verbs, viz. the forms: cacuc, ʔincacac, ʔiccac₃c₃a, ʔiccāc₃c₃a, ʔiccac₃ac₃c₃a, ʔicwacac₃c₃a, ʔiccanc₃ac₃a, ʔiccancā; the verbs implying: a natural quality of a person, colour, cleanness or greasiness; and any verb which is a reflexive (muṭāwīl⁶) of a singly-transitive (governing one object) verb. Other forms and semantical connotations are used with both the transitive and the intransitive verbs.¹

Most of the transitive verbs take one objective complement in the accusative, but many others take two objects. The latter group is divisible into two classes, to which a third minority class is attached:

1. The first class consists of those whose objects are related to one another as subject and predicate. These are about twenty verbs, in addition to which eighteen others were also proposed by

¹ Cf. Abū Ḥayyān, Manhaj al-Sālik, pp.125-27; Al-Ḥadīdī, op.cit., pp.406-419.

individual grammarians as being doubly transitive verbs.¹ The twenty verbs comprise those eleven that are called by the Arab grammarians /ʔaflāl al-qulūb/ 'verbs of the hearts' which signify acts that take place in the mind, such as certainty, doubt or probability. They are better known as /ʔanna wa ʔaxawātuhā/ 'the sister-group of the verb /ʔanna/ (to think, believe)'. The remainder of the twenty are the two inflexible imperatives (viz. /hab/ 'suppose, think' and /talallam/ 'learn, know'), and seven other verbs used alternatively in the sense of /ṣayyara/ 'to make, change into'.

2. The second class consists of verbs whose first and second objects are of no relation with one another, i.e. semantically they cannot stand on their own - without the verb - as subject and predicate. This group is called by the Arab grammarians /ʔaṭā wa ʔaxawātuhā/ 'the sister-group of the verb /ʔaṭā/ (to give)'. Formally and semantically they are identified as

"all causatives of the second and fourth verbal forms, whose ground-form is transitive and governs an accusative; as also verbs that signify to fill or satisfy, give, deprive, forbid, ask, entreat, and the like, the most of which have likewise a causative meaning."²

3. The third class consists of verbs which govern three objects in the accusative. Mainly, two verbs are usually specified to represent this group, viz. /ʔallama/ 'to make one know' and /ʔarā/ 'to make one think or believe'. But as these two actually belong to the above

¹ See Abū Ḥayyān, op.cit., pp.90f.

² Wright, op.cit., 2, pp.47f.

mentioned 'ʔaflāl al-qulūb', they can be formally generalized as those of 'ʔaflāl al-qulūb' patterned in form IV (ʔaccac). In addition, the verbs /ḥaddaʔ, ʔaXbar, Xabbar, nabbaʔ, ʔanbaʔ/ 'to tell or inform' are also related to this group.¹

Under this question again, the two divisions of verbs are convertible into one another by means of the following processes:

(i) Transitive verbs are converted into intransitive ones by either of:

1. The transference of a transitive verb into the pattern cacuc to express 'wonder and amazement', e.g. /ʕaluma zaydun/ 'how wonderful Zaydun's knowledge is'.

2. The transference of a transitive verb into form VII, e.g. /ʔinkasara/. a reflexive of /kasara/ 'to break'.

3. The alteration of a meaning into that of an intransitive verb, e.g. the Qurʔān-verse /fal-yaḥṣari-llaḥina uyXālifūna ʕan ʔamrihi/ 'those who disobey the command of God should watch out', where the verb /Xālafa/ 'to disagree with' is used in the sense of /Xaraja/ 'to go out or disobey'.

4. The reversal of the syntactical order by positioning the object before the transitive verb, as for emphasis, e.g. the Quarʔān-verse /ʔin kuntum lil-ruʔyā talburūn/ 'if you (pl.) were to interpret

¹ See Al-Raḍī, loc.cit.; Abū Ḥayyān, loc.cit.; Al-Ḥamalāwi, op.cit., pp.41,49.

the dream', where the verb /ta^ḥburūn/ is placed after what is originally its object.

5. The insertion of a preposition before the object for meter or rhyming in poetry, e.g. the preposition /bi/ in: /tasqī al-ḡajīla bi-bāridin/ 'she provides her companion with a cool (saliva). However, this transitivizer is very rarely put to use in this manner.

(ii) Intransitive verbs are converted into transitive ones by either of:

1. The augmentation of hamzah /ʔ/, which transfers the triliteral into form IV, e.g. /ʔakrama/ 'to be hospitable to'.

2. The gemination which transfers the triliteral into form II, e.g. /farraḥa/ 'to please'.

3. The transference of a triliteral into form III, e.g. /jālasa/ 'to sit in the company of'.

4. The transference of a triliteral into form X, e.g. /ʔistaxraja/ 'to bring out laboriously'.

5. The transference of a triliteral verb into the primary form cacac/yaccuc to express victory over a 'reciprocal dispute', which is usually expressed in form III, e.g. /kāramanī/ → /fa-kāramtuhu/ ʔakrumuh/ 'he competed with me over hospitality, but I did beat him'.

6. The alteration of a meaning into that of a transitive verb, e.g. /ṭalū^ṣla/ 'to appear' is used in the meaning of 'to reach'.

7. The insertion of a preposition before the object (this is different from (i):5, which is the usual transitivizer, e.g. /šahabat bihi al-rīhu/ 'the wind went away with (took) it'.

8. The elision of an understood preposition, as for poetic rhyming, e.g. /tamurrūna al-diyara/ 'you (pl.) pass the houses'.

With the exception of the prefixation of hamzah /ʔ/, all the transitivizers here are said to be restricted to what is classically recorded, i.e. analogy is not to be resorted to in such cases.¹

¹ See Al-Ḥamalawī, op.cit., p.50.

THE VERBAL MORPHOSYNTACTIC CATEGORIES

5.2.0 INTRODUCTION

So far as Arabic is concerned, the grammatical categories include those of aspect/tense, person, number, gender, voice and mood. Some of the many other categories that other languages exhibit in bound or free morphemes,¹ may find correspondences in Arabic grammatical forms. But such an attempt would be labouring the unnecessary, if not the undesirable. 'Case' for instance, with its semantical and declensional features (including: ablative, genitive, locative, instrumental, accusative, nominative, etc.) is a Latin category the total imposition of which upon Arabic morphology would be inappropriate, although both languages are of the inflected group. At any rate, 'case' is mainly a category of noun,* which makes it beyond our concern for serious consideration here.

The criterion on which the definition of the diverse grammatical categories is based is not always an acceptable one, even when

¹ See a list of the grammatical categories in: Nida, E.A. Morphology, the Descriptive Analysis of Words, pp.166-69; cf. the definitions of morphosyntactic 'categories' and 'properties' in: Matthews, Morphology, pp.66,136f.

* The part of case category that is involved in the description of verbs is indicated in Chapter III, see pp.121-125.

the term 'category' is restricted to the sense of 'morpheme classes' such as 'aspect', 'person', etc. Should they be defined in notional terms (i.e. gender: sex, number: counting, tense: time, etc.) as they used to be treated in traditional grammars; or should they be treated as 'morphosyntactic' categories, considering their morphological as well as their syntactical marks in relation to other units in the sentence, as it is suggested in modern linguistics? There is no need to go into details about this question which is satisfactorily tackled in other works,¹ covering the six major categories, with 'case' included in a marginal sense. However, these categories will be used in this work as conventional concepts, in a general linguistic sense, with the restrictions required to be brought up when necessary.

The most significant point that concerns us here is perhaps the classificatory dichotomy of the grammatical categories into those which are exclusively associated with verbs, and those which are exclusively or inclusively associated with nouns. Of the latter group, gender is a feature of nouns, number is a feature of nouns and verbs, and person is simultaneously a feature of verbs and a classification of pronouns. The former group comprises aspect/tense, mood and voice.²

On these grounds, the systemic classification of the verbal rules in this grammar will take into consideration those morphosyntactic categories which are exclusively verbal. As for gender, number and person, they would of course be major factors featuring the distribution

¹ See Palmer, F.R., Grammar, Penguin Books, 1973, pp.82-97; Whorf, B.L., 'Grammatical Categories', Language, 21 (1945) 1-11; cf. Nida, loc.cit.

² Palmer, loc.cit.

of rules as morphosyntactic properties. The fact that gender is exclusively a nominal category does not contradict this statement, because in Arabic it is verbally marked as a matter of 'concord or government'.¹

5.2.1 ASPECT/TENSE INTERSECTION

The Aspect/Tense distinction is in the first place, a semantical rather than a morphological or syntactical question.² Nonetheless, it is fundamental in distinguishing what Whorf³ calls 'signatures of the modulus', that is the patterns and other elements of grammatical forms which signify aspects, tenses, voices, etc. as modulus categories in the larger category (class) of verb. This is perhaps more so with languages such as Arabic where both form and function have to be taken into account for the establishment of the verbal classification,⁴ especially with the presence of identical forms which are only functionally identifiable, e.g. /ʔakram/ 'became generous to', and /ʔakram/ 'more generous (adj.)'.

The meanings of 'Aspect' and 'Tense' (and perhaps 'mood') are so overlapping that any search for a real universal distinction between them is considered by some linguists as "almost certainly

¹ See these concepts in: Palmer F., Grammar, pp.97-106.

² Cf. Leech, Geoffrey, N., Meaning and the English Verb, Longman Group Limited, London, 1971, p.vii.

³ Grammatical Categories, p.7.

⁴ Cf. Beeston, Arabic Language Today, p.31.

pointless".¹ "Some languages have no tense at all, in others tense interacts with the categories of aspect and mood".² A good general idea of the interaction between aspect and tense is reflected in the statement that

"the so called perfect and imperfect tenses contrast with the so called present tense in being present perfect and past imperfect, respectively; and the misleading named pluperfect ('further [in the past] than the perfect') is the past perfect."³

The phrase 'further in the past' in this statement, introduces a third element in this complexity of categories. That is 'Time' which equally requires a consideration as to whether or not it is distinguishable from 'Tense'. Thus a discussion of the Tense/Time interaction, followed by another of the Aspect/Tense interaction, should hopefully lead us to a substantiated postulate that could pave the way for a clear and straightforward specification of the right terms that we could consistently use for these categories throughout the grammar.

5.2.1.1 Tense/Time

In the general grammatical definition, 'Tense' and 'Time' appear to mean one thing or to have an inclusive relationship with one

¹ Palmer, op.cit., p.94.

² Dictionary of Language and Linguistics, p.234.

³ Lyons, John, Semantics, Cambridge University Press, Cambridge, 1977, vol 2, p.704.

another. 'Tense' is defined as a "Grammatical category of the verb expressing by means of grammatical contrasts the time relationship of the action referred to in the sentence and the time of utterance".¹ This definition presents 'Tense' as a term covering the tripartite divisions of 'Time', which is the sense that seems to be generally adopted by most of the traditional grammars of the European languages in which time contrasts are generally felt to be "a fundamental feature of the verb";² as well as by the traditional Arabic grammar in which 'Time' is considered basic in the definition of the verbal class. But 'Tense' is also conceptualized as a positionless abstract line, as we shall see later.

Beyond the domain of grammar, there is however the general sense of 'Time', whose establishment Bull³ describes thus;

"It has been necessary in all advanced civilizations to establish a public time based on the periodicity of some easily observable natural phenomena by whose regularity most men naturally adjust their affairs... However, the revolution of the earth on its axis and its periodic positional relations to the sun, moon, and stars, the most spectacular of natural phenomena, have become the hands of cosmic clocks which have provided the basis for 'modern' public time."

To relate this general sense of Time to a given grammar of language, the expected usual procedure is to survey the actual usage of the language in order to obtain all the details about its verbal time span.

¹ Dictionary of Language and Linguistics, p.236.

² Beeston, op.cit., p.76.

³ Bull, William E., Time, Tense, and the Verb: A Study in Theoretical and Applied Linguistics, with Particular Attention to Spanish, University of California Press, Berkeley and Los Angeles, 1963, p.5.

In addition to this usual procedure, the traditional Arab grammarians seem to have worked out their temporal specifications of the Arabic verb within a somewhat philosophical frame of thinking, not very much different from what is reflected in the preceding - late twentieth century - quotation. A good representation of this type of thinking is the comment of Ibn Yaḥyā on a statement by al-Zamakhsharī on this question. He says:¹

"As the actions keep pace with time, and the time constitutes an essence of the actions, actions had to be divided according to time-divisions. And as times are nothing but the astronomical rotations which are: a past movement, a coming movement, and a third one in between, so were the actions: a past, a future, and a present. The past is what occurred before the moment of speech, the future is what occurs afterwards, and the present is what coincides with this moment to which the past extends and from which the future begins... Some scholars denied the existence of 'present' on the grounds that action either exists there in which case it is the past, or not in which case it is future, and there is no place for a third."

The closing remark of Ibn Yaḥyā about the denial of 'present' by some scholars leads to a serious point in the discussion of Tense/Time interaction. That is the conceptualization of the 'point present' as an abstraction, which plays a major role in the distinction between tense and time, as we shall see. Those scholars may have denied the existence of a 'present moment' if it is conceived as a 'static entity' dividing the two parts of the infinite time, but not as defined by Jespersen^e, "Like a mathematical point has no dimension, but is constantly

¹ Ibn Yaḥyā, Ṣarḥ al-Mufaṣṣal, ʿĀlam al-Kutub, Beirut, vol.7, p.4.

fleeting".¹ However, this dichotomous classification of time was regarded by one of the modern linguists as one concept in a twofold conception of time. The second is a division into three time-spheres: past and future separated by the present time-sphere which may vary in extent from one speaker to another. "The present is therefore not a defined or definable entity, but something which like a piece of elastic, may be stretched or contracted at will".²

This tripartite classification of 'Tense' into: past, present and future, is a dominant feature of the traditional Arabic grammar, which defines the verb in terms of time, taking the moment of utterance 'now' as the primary point of departure or orientation, in identifying the differential temporal relation between the event and either of the three tenses. One way of assessing these tenses of Arabic grammar is perhaps to compare them to their counterparts in a modern grammar of English. Out of such an assessment the following points may emerge:³

1. It is held in the commonest use of the simple 'past tense' that the two basic elements of meaning are: the happening precedes the present moment which is excluded, and a definite time in the speaker's mind is expressed adverbially, in addition to the fact that "the past tense applies only to completed happenings". This differs from the mentioned definition of 'past tense' in that, whereas it requires an

¹ Cf. Charleston, B.M., 'A Reconsideration of the Problem of Time, Tense, and Aspect in Modern English', English Studies, 36 (1955) 263-78, p.265.

² Loc.cit.

³ Cf. Leech, op.cit., pp.1-6,9, 51-65.

'adverbial definiteness of time', a contextual definiteness is usually sufficient in Arabic. This is so with the exception of specific verbs which denote by their very nature the inclusion of the present moment. These are /ʔaṣbaḥ, ʔamsā, ʔadḥā, ʕalla, bāta/. referring to 'morning, evening, forenoon, day and night' respectively. In a sentence like /ʔaṣbaḥa al-ʔamīru ʕādilan/ 'the prince turned just in the morning', the action is meant to include the present moment.¹ As for past/completeness, Arabic also considers the overlap of tense and aspect as certain in the simple past tense.

2. The basic element of meaning generally associated with 'Present Tense' is the speaker's 'now' (moment of speech). This applies to all of its uses: habitual, instantaneous, or unrestrictive. The element of meaning 'now' , may stretch backward or forward, involving partially the past, the future or both. That is to say, action expressed by the verb may be abrupt (the instantaneous), e.g. /bi-hāʕā ʔuḷḷinu al-ḥarb/ 'hereby I declare war', as it may stretch through 'now' (eternal truths, where tense-forms seem to be empty of time, i.e. tense without time), e.g. /taṭluḷu al-ṣamsu fī al-maṣriqi/ 'the sun rises in the east', /yaṭfū al-duhnu ʕalā al-māʔi/ 'oil floats on water'. Arabic is no exception in this respect, as the examples given indicate. But there are certain Arabic verbs that express this element of meaning in the 'past tense' form, provided that they occur in negated constructions. These are /mā-zāla, mā-nfakka, mā-fatīʔa,

¹ Cf. Ibn Yaʕīś, op.cit., 7, pp.103-105.

mā-bariḥa/, which are to express a progressive action, with indefinite extent in the past and a possible stretch in future. A sentence like /mā-zālat al-šamsu mušriqatan/ 'the sun is still shining', indicates this continuity of time. The fact that each of these verbs - which are generally interchangeable - has the negative sense 'vanish' as a nuance of meaning, invalidates the semantical function of the negative particle /mā/ - or the vice versa - rendering the construction as a positive statement.¹

3. 'Future Time' is usually defined adverbially, and in some languages, like French 'future tense' is expressed by a special verb form, e.g. /je donnerai/ 'I shall give'; but it could be indefinite as well. Thus different constructions are used to express 'futurity' in the very same language. In traditional Arabic grammar, the 'Imperative' is the major example for 'future tense', but 'futurity' is also expressed in Arabic by the present tense form which is used to refer to future as well as to 'presence'. Such a fact may make the dichotomic classification of tense more suited to Arabic as it is believed to be in English. "The most basic distinction in the English tense-system, as it is in the vast majority of the tense-systems of other languages, is the distinction between past and non-past".²

In Arabic 'futurity' is also expressed in other ways which are almost identical to their counterparts in English with some differences

¹ Cf. ibid., 7, pp.106-111.

² Lyons, Semantics, 2, p.678.

of emphasis. If we compare the most important forms of future-expressions in English and Arabic, we may come up with the following constructions:

Table 5.H THE ARABIC/ENGLISH CONSTRUCTIONS FOR
FUTURE-EXPRESSIONS

<u>English</u>	<u>Arabic</u>
(a) will/shall + infinitive	(a) sa/sawfa + infinitive* /sawfa yaḡharu al-qamaru ḡadan/ 'the moon will appear tomorrow'
(b) Be going to + infinitive	(b) Ṣāzimun ?an + infinitive /huwa Ṣāzimun ?an yusāfira ḡadan/ 'he is planning to travel tomorrow'
(c) Present progressive	(c) Present progressive /al-ʔamīru munṭaliquṇ bi-al-jayṣi ḡadan/ 'the prince is leading the army tomorrow'
(d) Simple present	(d) Simple present /ḡadan yudrikūna/ 'tomorrow they understand'
(e) will/shall + progressive infinitive	(e) Sa/sawfa + be + progressive /sa-yakūnu ʔāminan/ 'he will be honest'

In all these constructions, as well as in others such as the conditional sentence, it is always difficult to characterize the meaning of 'futurity' as 'neutral' of the speaker's attitude (i.e. neutral

* 'Infinitive' in the Arabic counterparts is restricted to the sense of 'present form'. It is not as in English the basis for derivational forms'.

future tense), because every usage involves the speaker's judgement in a form of prediction.¹ This is why Tense and Mood in Arabic are always conceived of as very much interrelated.

5.2.1.2 Aspect/Tense

'Aspect' is defined as "A grammatical category of the verb marked by prefixes, suffixes or internal vowel changes, indicating not so much its location in time (→ tense) but the duration and type of action expressed".² It was first used to refer to the basic dichotomy Perfective/Imperfective in Russian and other Slavonic languages. The imperfective aspect describes an action which is regarded as having continuity or repetition in the past, present or future. The perfective aspect on the other hand describes an action either completed in the past or to be completed in the future.

A more restrictive definition of 'aspect' is that it is taken as such to indicate 'perfect/imperfect' forms, with or without the consideration of time, but when it is used to indicate by these forms 'complete/incomplete actions' it is then described as 'subjective aspect'.³ 'Subjective' here seems to be referring to the basic notions of 'perfective/imperfective', as opposed to the other temporal distinctions referred to

¹ Cf. Lyons, Semantics, 2, pp.677ff.

² Dictionary of Language and Linguistics, p.20.

³ Thacker, T.W., 'Compound Tenses containing the verb 'be' in Semitic and Egyptian', in: Hebrew and Semitic Studies, Presented to Godfrey Rolls Driver, in Celebration of his Seventieth Birthday, ed. D.W. Thomas and W.D. McHardy, Oxford, University Press, 1963, pp.156-57.

in terms of 'aspect'.¹ Beeston² speaks of an 'aspectual' factor, which "depends on whether the predicate is envisaged dynamically as depicting a change from one situation to another, or statically as depicting a single, ideally 'frozen' situation". In this definition of the 'aspectual factor' where the 'dynamic/static' dichotomy seems to be the major defining element, the concept of 'aspect' is rather obscured by the involvement of the 'time' element. 'Time' is considered as irrelevant when 'aspect' is static, but it is aspectually relevant when the 'aspect' is 'dynamic'; as in the case of a dynamic predicate that states an event "in which the theme (or agent) plays a part, as in 'Joe opened the meeting'.³" The general impression that one gets from a statement such as "command verbs always have dynamic aspects",⁴ in addition to many other phrases depicting the same line of thinking, is that Beeston was actually using the terms static/dynamic as equivalent to perfect/imperfect respectively.

In traditional Arabic grammar, no such reference to 'completion' of action is made. Actions are viewed only in terms of the three tenses. Therefore one may argue that it is

"unwise to talk of aspect, except where a language clearly has two separate verbal categories, as for instance Latin (and, perhaps, English), since we then need₅ two names for two different formal categories".⁵

¹ Cf. Dictionary of Language and Linguistics, pp.20-21.

² Arabic Language Today, p.76, and cf. p.78.

³ Ibid., p.66.

⁴ Ibid., p.84 and cf. p.90.

⁵ Palmer, Grammar, p.93.

On other grounds, other arguments against the use of the aspectual terms (perfective/imperfective) in Arabic, may also be brought to bear;

(1) A 'marker' is part of the definition of 'aspect' as we have seen. The fact that there is no marker in any verbal form of Arabic to indicate completeness - or otherwise - of the action, makes the use of the 'aspect' concept improper here.

(2) The notion of 'completeness' is never mentioned in association with the verbal forms in the traditional Arabic grammar. This is obviously because the Arab grammarians were thinking only in terms of 'Tense' (or Time) as far as the verbal features are concerned. None of the segmental morphemes with whose identification they were mainly concerned is a representative of the 'aspect' category.

(3) The following argument about the negative constructions of the verbal form 'muḍāriḥ': Negation in the case of the /muḍāriḥ/ 'present tense' construction is distinctively specified in terms of the tripartite classification of Tense. Of the particles associated with verb, three negation particles are exclusively associated with the muḍāriḥ forms, to indicate negation in the following constructions:

TABLE 5.1

NEGATIONS - CONSTRUCTION

<u>Tense</u>	<u>Particle</u>	<u>Mudāriʿ</u>	<u>Negative Construction</u>
Present	lā	{ /taktub/ 'you write'	lā taktubu
Future	lan		lan taktuba
Past	lam		lam taktub

Two important facts should be pointed out here:

(a) the particle '/lā/' is also used for future negation, in order to give a negative 'command', i.e. prohibition, requiring abstention from certain action. But that is a totally different situation. Because it is then used in the 'Imperative' sense, which is only formally required to take the 'present tense' form in the case of negation. Somewhat similar is its use in ^ādu^ā (expression of a pious wish), e.g. /lā ^āḥazalahu Allāh/ 'may God never let him down'. (b) The particle '/lam/' is again only formally attached to the 'present tense' form in this construction, but it is actually negating here a 'past tense', which is by rule supposed to take the 'present tense' form in the case of negation. This last point totally excludes any aspectual consideration in the construction 'lam taktub'. It might be clearer if represented diagrammatically thus:

(1)	taktub	{	write	(2)	lam-	{	not write
			incomplete				not incomplete = complete

Part (2) of this equation is not actually a negation of part (1). It is in fact a semantically equivalent construction of the negated 'past tense' construction /mā-katabta/ 'you did not write'. This makes it a pure question of 'tense-negation', with no reference whatsoever to the question of aspect (complete/incomplete action) which one is usually tempted to associate with the Arabic 'present tense' structure.

With all these arguments in mind, one may wonder why should it be suggested in modern times that "In Classical Arabic the only distinction in the verb seems to be one of aspect, complete and

incomplete".¹ The reason for this is most probably a tendency towards a diachronic rather than a synchronic treatment of the question.

A number of modern linguists have applied these terms (perfect/imperfect) to Arabic, without a serious attempt to verify their original implications.² In this they all seem to be taking after Wright who used these terms in his most celebrated work on Arabic grammar. But Wright himself does not make any explicit justification for his application of these terms to Arabic. In fact he ignores an important element in the definition of 'aspect', which is the marker. The verbal affixes that he presented in aspectual terms, has never been - so far as I know - assigned positively or negatively to the notion of 'completeness' by the traditional Arab grammarians. However, Wright³ makes two points that reflect an awareness of the aspect/tense interaction, which seems to have justified for him the use of those affixes as simultaneous markers for both aspect and tense. The first point is his reference to the use of perfect/imperfect in Semitic languages with no reference to 'temporal relations', although

"It is precisely these relations which determine in what sphere of time (past, present, or future) a semitic Perfect or Imperfect lies."⁴

And the second is his statement that this important distinction was not kept by the Arabian Grammarians, as they "have given an undue importance to the idea of time."⁵

¹ Palmer, op.cit., p.93.

² Cf. Altoma, The Problem of Diglossia in Arabic, p.66; Rabin, Communal Dialects in Baghdad, p.97, Beeston, op.cit., pp.76,78.

³ Grammar of Arabic, 1, p.51.

⁴ Wright, loc.cit.

⁵ Loc.cit.

The former point signifies the diachronic or historical considerations involved in this question. A comparative study of the West Semitic languages in general reveals that the verb in this Semitic group, including Arabic, has two finite indicative forms that are 'subjective aspects'. One is the 'perfect' form whose function is to narrate a completed action, the other is the 'imperfect' whose function is to describe an action that is incomplete or in progress. This distinction means that these forms have nothing to do with any temporal connotation of the tense-types in, say, Latin and the modern West European languages. Time-sphere is inferrable only from the context.¹

The question that poses itself is then how and why did the idea of temporal connotation come separately to the Arab grammarians in their synchronic description of the Arabic verb? Why did they give all their concern to 'Time' reference, ignoring totally the other viewpoint?

Like the rest of the west Semitic languages, Arabic has the verb 'Be' (Hebrew /hāyāh/, Aramaic /hawāh/, Arabic /kāna/) which is different from all other verbs in that the choice of the perfect/imperfect forms is dictated in one of its usages (i.e. when used as a copula) not by 'subjective aspect', but by consideration of time, in order to express various temporal nuances. In this usage, its perfect form has reference

¹ Thacker, loc.cit.

to past time, and the imperfect to future time. Both forms are used for defining accurately the time-sphere when it is felt necessary to specify. To perform this function, the verb 'Be' is employed in a number of compound verb-forms, divisible into two main groups:¹

- (i) 'Be' compounded with a finite form.
- (ii) 'Be' compounded with an infinite form.

Group (i) has four combinations:

(a) The perfect (past tense form) of verb 'Be' compounded with the perfect of another verb. This is very common in Arabic, e.g. /kāna Xaraja lil-ṣaydi/ 'he had [previously] gone out hunting'.

(b) The perfect of verb 'Be' compounded with the imperfect (present tense form) of another verb. This indicates a continuous or repeated action in the past, and it is also very common in Arabic, e.g. /kāna yaḥhabu lil-maktabati kulla yawmin/ 'he used to go to the library everyday'.

(c) The imperfect of verb 'Be' followed by the perfect of another verb. This construction has the force of a future-perfect, and it is peculiar to Arabic, e.g. /ḥatta lā yakūna baqiya ṣayʔun/ 'until there shall have been nothing left'.

(d) The imperfect of 'Be' compounded with the imperfect of another verb. Again this is peculiar to classical Arabic, and it is very rare therein. It is expected to denote continuous or repeated

¹ Thacker, op.cit., pp.159-64.

action in the future. In modern literary Arabic the imperfect of 'Be' is usually prefixed with /sa/. e.g. /sa-yakūnu yaktubu baḥeahu/ 'he will be writing his thesis'.

Group (ii) is concerned with the active and passive participles, which are the only 'infinite' forms with which the verb 'Be' is compounded in the west Semitic languages:

(a) The perfect of verb 'Be' compounded with the active participle. This is very common in Arabic as well as in Hebrew and Aramaic. It is the normal mode of expressing prolonged or repeated action when the speaker is keen to specify that it occurred in past time, e.g. /kāna nāzilan bi-al-madīnah/ 'he was dwelling in the city'; Hebrew: Joseph was tending (/hāyāh ro^ṣleh/) the flock; Aramaic: he used to kneel (/hawā vārēx/) and pray (/wumṣallē/) three times a day.

(b) The imperfect of the verb 'Be' compounded with the active participle to express prolonged or repeated action in future time. This is less frequent in use than the perfect, e.g. /sa-yakūnu muntaḡiran/ 'he shall be waiting'.

Let us now try to find out what would be the result if we add these 'compound verb-forms' to the simple verb-forms (known as past, present and future tenses), with the intention of inferring the meaning of each in view of the meanings of the others. Contrasts and points of overlapping are bound to occur between the meaning of each form and meanings of the rest of the constructions:

(1) The compound form (i:a) (i.e. perfect of 'Be' + simple perfect) has a pluperfect (past perfect) meaning, as it indicates a 'completed action' with a temporal point of reference in the past, usually related in the context to another verb of a simple past tense form. This is achieved through a special kind of what is known as 'the circumstantial clause', which is unlike the usual 'circumstantial clause' of which the chosen verb-form ought to be capable of denoting a continuous or prolonged action in order to match in time that of the main verb in the entire construction. This 'special clause' describes a completed action with reference to a point of time that extends only in the past to the limit of another point of time committed to a nearer past signalled by the main verb of the construction. That is to say, a further point of time in the past, considered from the viewpoint of a nearer specific point of time also in the past. In other words, an established point of reference in the past is a condition for this construction, which is actually a past perfect construction. The circumstantial clause in this case is usually initiated by the particle /wa/ 'and', e.g. /tuwwija al-ʔamīru, wa-kāna Xaraja qāṣidan ʔarḍa al-malrikati/ 'the prince was crowned, having (lit. and he had) set out for the battle-field'.

(2) The compound form (i:b) (i.e. perfect of 'Be' + simple imperfect) presents in its common use a situation where the present moment is excluded from the happening which takes place before it, e.g. /kāna yaskunu al-madīna/ 'he used to dwell in the city', meaning he is no longer dwelling there. The definite point of time (in the past) in the speaker's mind is expressed adverbially or contextually, but it

is not necessarily required to be named. However, the whole point here might be conceptualized in terms of the RP (Retrospective Point) concept as presented by Bull¹ to symbolize 'Point Present' when it is moved back in time to become the axis of orientation in the past.

(3) The compound form (i:c) (i.e. imperfect of 'Be' + simple perfect) seems to be a matter of 'perfect aspect' - meaning added to 'future-tense' - meaning. A possible interpretation of this is an 'imaginary past' where the speaker imagines his presence in the future or shifts the future to 'now', and thus speaks of the event occurring there as a 'finished' action. This would not be very far from the closing remark made at the preceding point (i.e. i:b), if the process described there is turned the other way round to allow for an anticipation of another PP (Point Present) in the coming time (future). But in the end this should in no way undermine the validity of the fact that this is a formal 'past-in-future' construction, which is the more plausible interpretation.

If this is acceptable, then the simple verb of the construction cannot actually have a temporal reference. Otherwise the two compounded verbs of the construction would contradict each other: 'recollection' of 'past' in the simple verb-form would appear to be identified with 'anticipation' in the verb 'Be' which is not possible.² The only feasibility is then the aspectual consideration of the simple verb as a 'perfective', denoting 'completion' of action, with 'futurity' being

¹ Time, Tense, and the Verb, pp.21ff.

² Cf. ibid., p.55.

assignable to the verb 'Be' as the single time-reference in the construction, e.g. /sa-yakūnu Xaraja lik-Şaydi/ 'he will have gone out hunting'. All of what is said here should apply perfectly well to the 'if clause' which is expressed in Arabic by '?iğā + simple verb (Perfective form in this case)', e.g. /?iğā nūdiya lil-şalati/ 'if it is called for prayers'. The only difference is that instead of the verb 'Be', futurity is indicated by the particle '?iğā'.

(4) The compound form (i:d) (imperfect of 'Be' + simple imperfect) is to express a progressive aspect in the future. Here, the prefix 'sa' (alternatively 'sawfa') restricts the optional function of the imperfect of 'Be' (present or future) to a function of an indefinite future. In such a case the imperfect of 'Be' becomes a counterpart of the simple past, allowing for no possibility of overlapping with the present moment.

The simple verb construction which follows the verb 'Be' is difficult to regard here as empty of time reference, because it is, by virtue of the progressive aspect it has, bound to have a duration attributable to most, if not all verbs (state or event verbs).¹ This would of course mean that the verb form is here indicative of both tense and aspect categories. A case of double functioning similar to that of the English traditional pluperfect (had + participle phrase) which "is said to indicate completed action and action prior to another action in the past".² Should this be so, the question then arises as to which

¹ Cf. Leech, op.cit., pp.14f., 18f.

² Diver, William, 'The Chronological System of the English Verb', Word, 19 (1963) 141-181, p.152.

feature is indicating which category; and if such a question is satisfactorily answered how then shall we tackle the possibility of temporal contradiction between the two compounded verbs of the construction: imperfect of 'Be' with the prefix 'sa/sawfa' indicating future, and a progressive verb indicating a temporary situation with a time-span which includes the present moment (in future), stretching partially into the past as well as into the future?

One possible interpretation is to consider the progressive verb here as a 'tense without time', in the same way as we do with what is known as 'historical present tense'. This is partly supported by the context which is regarded as "the essential tool for anyone describing tense usage".¹ And this should bring it in line with the other simple verbs of the preceding compound forms. In a sentence like /sawfa yakūnu yuḥiddu nafsahu/ 'he will be preparing himself', the attention would be concentrated on the non-completeness aspect of the action, leaving the duration to be denoted by the verb 'Be'.

(5) The compound form (ii:a) (i.e. perfect of 'Be' + participle) is of more frequency in Arabic than other forms (viz. 'Be' + simple verb) for expressing progressive actions of the past; it is actually the usual construction for that meaning. Two verbal adjectives (derived from verbs) are used in Arabic to denote the agent (active participle), e.g. /ḥāris/ 'guarding, a guard', and the patient (passive participle) e.g. /maḥrūs/ 'guarded'. These participles generally

¹ Casparis, Christian Paul. Tense Without Time: The Present Tense in Narration, Francke Verlag Bern, Seitzerland, 1975, pp.33-34.

denote temporary or transitory action, but they may also - as adjectives - express a continuous action, a habitual state, or a permanent quality, e.g. /ḥākimun ʿādilun/ 'a just ruler', /ʿālimun ḥāṣiqun/ 'a skillful scholar'.¹

Thus the participles may either be durational, expressing continuity, and hence need a tense to locate them temporally, or they may express permanent quality of no temporal reference. In both cases they could only be aspectual forms. In traditional Arabic grammar, participles are 'nouns', and therefore they are not supposed to have subjects or objects in the Arabic sense of 'fāʿil, maflūl'. But as they prosodically resemble the verbal imperfect (present tense) form, they are allowed to behave like verbs in having subjects or objects; provided that the resemblance should also be semantical, i.e. having a time-reference expressed adverbially to indicate the present or future, e.g. /huwa muʿīnun ʔaxāhu al-ʔāna ʔaw ḡadan/ 'he is aiding his brother now or tomorrow'. A past time-reference is in this case only allowable when it represents ḥikāyat al-ḥāl al-māḍiyah/ 'narration of past situation' (that is the historical present), or the participles were prefixed with the definite article /al/, e.g. /al-ḡaribu Zaydan ʔamsi/ 'the one who was striking Zayd yesterday'.²

(6) The compound form (ii.b) (i.e. the imperfect of 'Be' + participle) is of the same description as the preceding compound form (ii:a), except for that this form is for progressive actions in 'future'.

¹ Cf. Wright, op.cit., 1, pp.52, 131-32.

² See Ibn Yaʿlīš, Šarḥ al-Mufaṣṣal, 6, pp.68-80; cf. Ibn Jinnī, al-Munṣif, 1, pp.270-72, 282-84.

The traditional Arabic grammar then confirms the posited assumption that the participles are by their nature aspectual forms which require other tense-forms for their durational location. And the auxiliary 'Be' in the compounded construction (ii:a) is assigned that required function.

As for the preceding compound forms (i.e. Be + simple verb), it is possible to make the following assumption: the fact that the simple forms of both 'past' and 'present' tenses are used in Arabic with the different temporal forms of 'Be', reduces these simple forms to perfect/imperfect aspects, with no temporal reference. The temporal reference is in this case carried out by the different forms of the verb 'Be'. This might lead to the conclusion that these simple verb forms are time indicators, unless they are compounded with verb 'Be' which then replaces them time-wise according to its form.

To put it in other words, the verb 'Be' deletes the 'tense' component of the verbal forms compounded with it, rendering them purely aspectual forms.

What /kāna/ does here should apply equally well when it is compounded with a 'lam-phrase'. The negating /lam/ usually, and as previously mentioned, functions as a 'tense' determiner in the sense that it alters the temporal sense of the verbal form from 'present' to 'past' time. Instead, we could think of it in such a case (i.e.

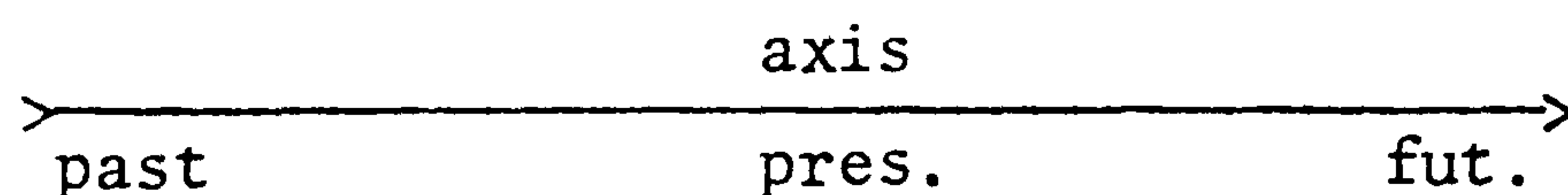
in a compound form) as deleting the 'tense' component, leaving the verbal form as a sole aspect-indicator, denoting in this case a perfect aspect. Thus, the negation phrase 'lam + verbal form' would mean non-completion of action, with no consideration of the time-sphere which is then bound to be specified by the other verbal morpheme in the construction, which is the copula 'Be'. The fact that 'lam-phrase' could be placed anywhere in the time span by means of 'verbal modifiers' such as /kāna/ and /ʔiʕā/ 'if', should confirm that in a 'compound construction', 'lam' deletes tense 'time' from the simple verb-form, committing it totally to aspectual considerations.

5.2.1.3 A Postulate

A postulation could be posited to the effect that the Arabic verb is a twofold functional form, with the compound/non-compound constructions as function determiners. For a demonstration, let us reorganize the entire arguments regarding the aspect/tense question in Arabic in a theoretical form, beginning with a specification of the four basic elements in the discussion:

Figure 5.D Time Unidimensional Line

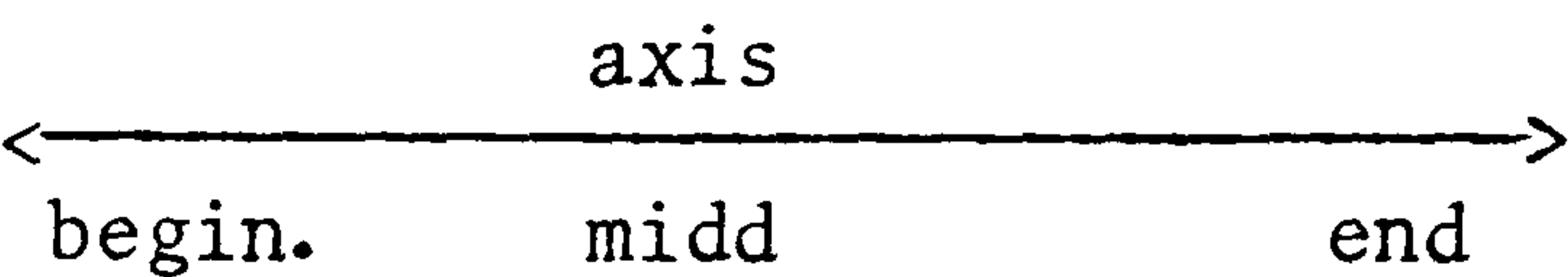
Time: Unidimensional line, extending from left to right:



Event (aspect): Bidirectional, assignable anywhere in the time-span.

Figure 5.E

Event Bidirectional Line



Utterance: May be synchronous with the event, or one is anterior or posterior to the other. The three cases (of utterance with event) could be oriented either to axis PP (Point Present), to axis RP (Retrospective Point) or to axis AP (Anticipative Point).

Tense: Tenses may be conceptualized either temporally as 'time concepts', in which case they will be particularly oriented to PP; or vectorially as positionless abstract lines, which could be oriented to any of the three axes of orientation: RP, PP, or AP.

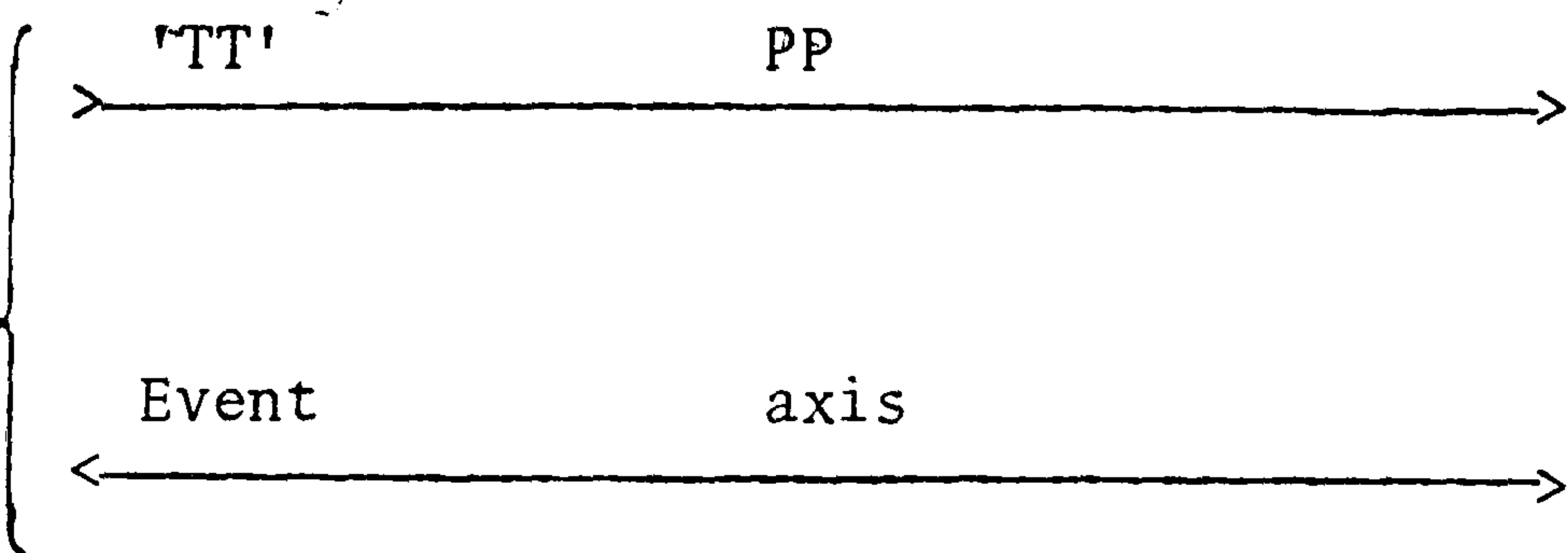
'Tense' considered as 'time concept' - which we may symbolize by 'TT' - with PP as its axis of orientation, may be taken as the basic criterion for the discussion.

'Event' synchronized with 'TT' gives 'Prime Tenses', which are then the simple 'past, present and future' tenses as conceptualized in the ordinary use in traditional grammar.

Figure 5.F

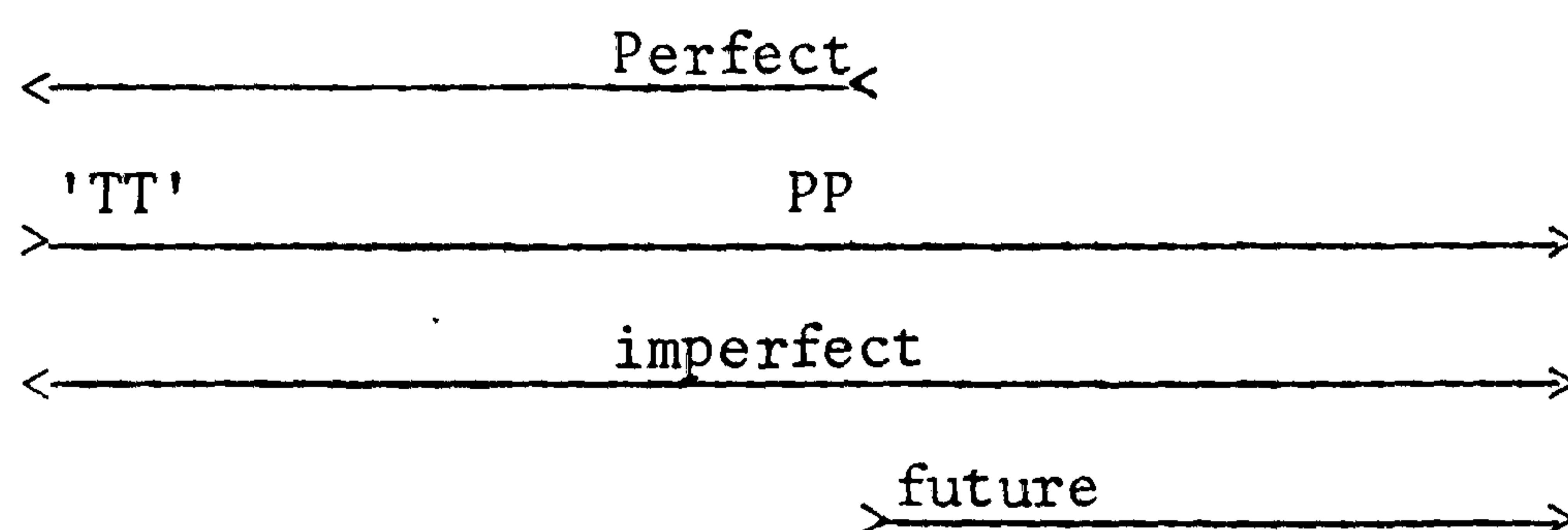
Prime Tenses

Prime Tenses:



Utterance - being in constant simultaneity^e with PP of 'TT' - determines which of the three tenses synchronizes with which of the three aspects (beginning, middle, end) of the event. Utterance of the end of event with PP gives 'past perfective', of the middle of event with PP gives 'present imperfect', and of beginning of event with PP gives 'future'.

Figure 5.G Synchrony of Time, Tense and Aspect

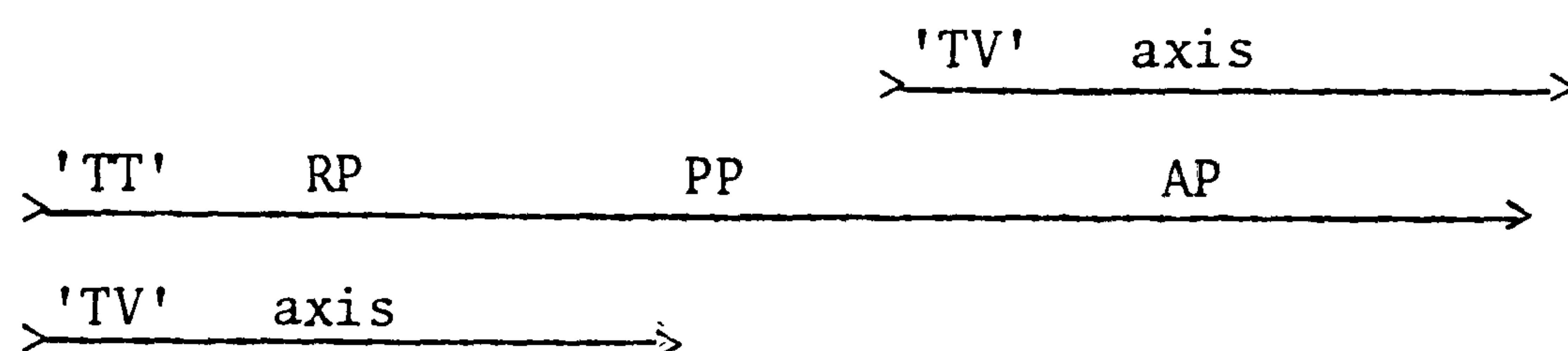


In this sense, 'Prime Tenses' should become double functional, viz. aspect/tense indicators. And on this ground they might be justifiably labelled 'perfect/imperfect tenses'.

'Tense' considered as a vectorial concept, which we may call 'TV', differs from 'TT' in that in addition to PP, its axis of orientation could also be RP or AP. Thus, when oriented to PP with the same synchronization with event as 'TT' it fuses in 'TT' resulting in 'Prime Tenses'. But it could also shift backward (recollection) to be oriented to RP, or move forward (anticipation) to be oriented to AP. In such cases it gives retrospective tenses or anticipative tenses, which may together be called 'Retrocipative Tenses'.

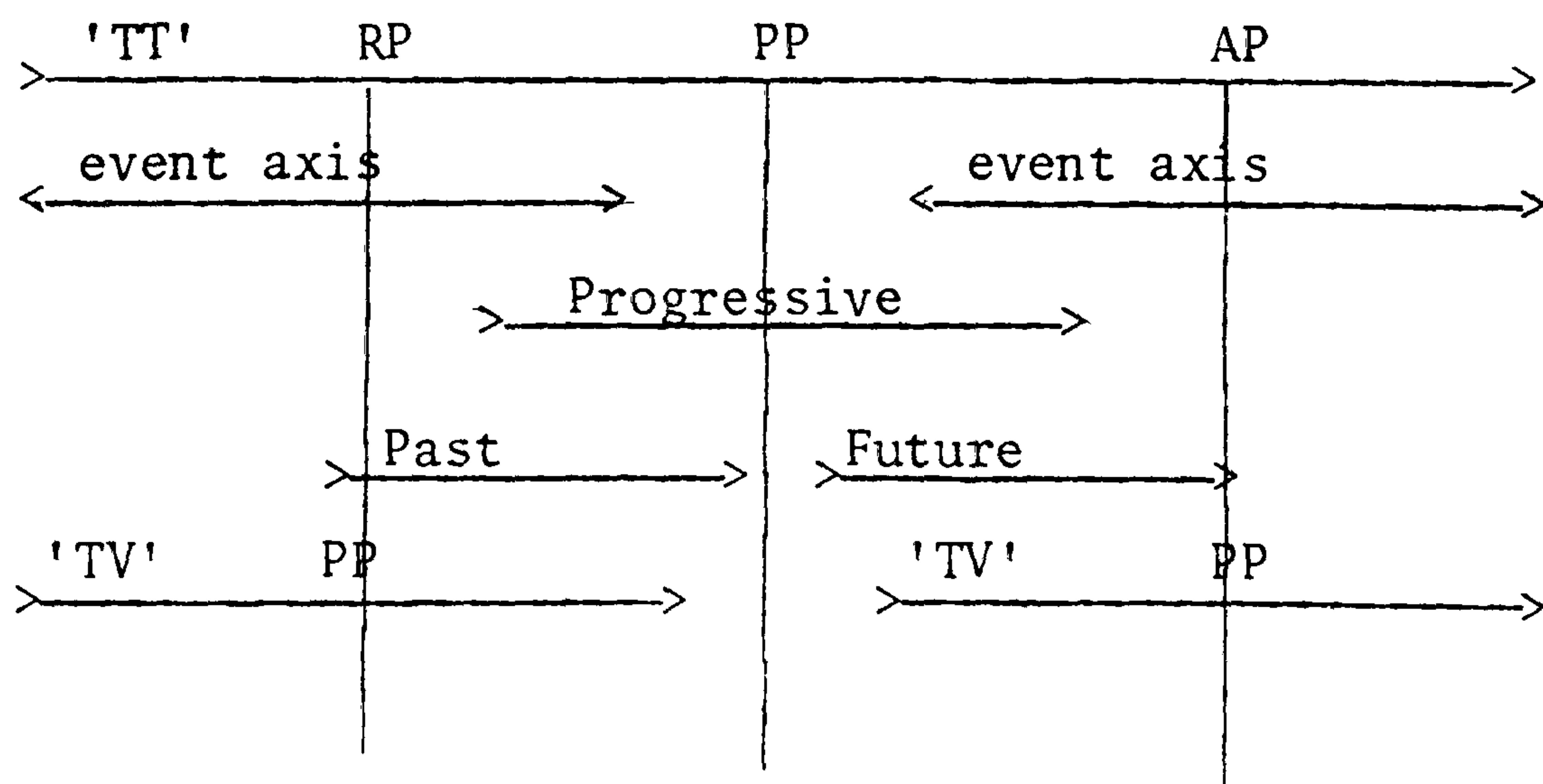
'Retrocipative Tenses' would be aspectual tenses concerned with the completion of action, and their PP synchronized with the axis of event becomes capable of moving to any position before (if oriented to RP) or after (if oriented to AP) the PP of the entire time span.

Figure 5.H Retrocipative Tenses



In other words: 'TV' oriented to RP or AP synchronizes with the axis of event and becomes aspectual (complete/incomplete), i.e. RP or AP becomes the PP of 'TV' and as a result PP becomes an axis of orientation for 'event' (beginning, middle, end). In such a case 'TT' has to be conveyed by a verb different from that conveying 'TV' in the total construction.

Figure 5.I Multidimensional Construction of Time, Tense and Aspect



On these grounds, the Arabic verb should be considered as a 'Prime Tense' when it is in the ordinary usage, indicating past, present or future. But when compounded with another verb like 'Be', or introduced, say, in a circumstantial clause, etc. it becomes an aspectual 'Retropicative Tense' oriented to RP or AP axis of 'event', and the 'Time' orientation is then carried out by the other verb of the compound construction; or adverbially in case of some participle formations. Should there be any durational consideration of the 'event' as in the 'progressive aspect', 'TV' would then also be considered as 'TT' oriented to RP or AP as its PP; and the verb at this point would fulfil twofold (aspect/tense) function.

5.2.1.4 Perfective/Imperfective

The preceding postulation is intended to overcome the apparently superficial contradiction in the simultaneous use of the aspectual (perfect/imperfect) and the temporal (past, present, future) labels with the Arabic verb, and to allow for a terminological determination in this respect. The aforesaid arguments should sufficiently justify the use of the 'perfect' form sometimes to refer to 'future time', such as after the particle /lam/. According to this postulation, the two successive forms will reflect the 'aspect' category with or without reference to 'Time'. A matter that makes the superficial contradiction irrelevant, as it will then relate - in a way - to the particles /ʔin/, /ʔiʃā/, /lam/, etc. rather than to the verbal forms.

With all the preceding discussion and demonstration of the terminological distinctions - in terms of both compound/non-compound 'constructions' and Prime/Retrocipative 'Tenses' - kept in mind for matters of reference, the terms 'perfective/imperfective' will be used throughout the following chapter on 'The Grammatical Rules' to denote 'Past' and 'Present' Tense forms, in a double functional sense.

5.2.2 VOICE

Nothing like the middle voice (concerning oneself) of Greek exists in Arabic. The only recognizable voice distinction is that of Active (mabniyyun lil-ma^ṣllūm) and Passive (mabniyyun lil-majhūl) voices. There is in fact a group of verbs that Wright¹ would consider as "something between" the active and passive, and call them neuter verbs because they express a state or condition which is, by its very nature, confined to the subject, e.g. /marīḍa/ 'to be sick', /nāma/ 'to sleep'. But these are actually a divisional group in terms of another classification (i.e. Transitive/Intransitive), as Wright himself has noticed. There is, however, the opinion that distinguishes the 'neutral' from the 'active voice' by the former meaning "to be in a certain condition or state",² whereas "the essential meaning of the active is 'to perform an action whether directly affecting another person or thing (transitive) or not (intransitive)'. It is from this comparativist approach that Wright's classification of 'voice' seems to originate.

¹ Grammar of Arabic, 1, pp.5f.

² Gray, Louis H. Introduction to Semitic Comparative Linguistics, Columbia University Press, 1934, p.76.

The subject of the 'passive voice' verb is either the object of the active form, e.g. /fuhima al-darsu/ 'the lesson is understood', or the abstract idea of the act, e.g. /julisa 9inda al-maktabati/ 'the sitting was at the library'. As for the subject (agent) of the active form it is usually elided in the passive structure, either to draw the attention to the object or to avoid mentioning the subject for one intentional reason or another. In other words, it is not the usual procedure to place it after the object (i.e. agent of the passive structure), as you may do in English. However, the positional and functional changes associated with 'voice', regarding other words in the sentence are beyond the realm of this grammar which is mainly concerned with the verbal form itself.

But this leads to the question of the grammatical relationship between the active and passive forms. This relationship is not always as simple as might be expected. There is the type of verbs that correspond in meaning to the passive voice, whereas their forms correspond to the active voice and require the subject rather than the object as a 'goal', e.g. /daqquat al-ʔajrāsu/ 'the bells rang'. That is how the grammatical categories are not always in correspondence with 'meaning'. But the general attitude in the traditional Arabic grammar seems to be in favour of an existing grammatical relationship between the active and passive forms of the verb. They take the active form as the baseform that generates the passive form through specific operations, i.e. the passive is said to be 'formed from' the

active.¹ But some modern linguists have

"actually denied that active and passive sentences were related grammatically and insisted that the relationship was purely semantic, i.e. that they merely had (roughly) the same meaning."²

The norm followed in this grammar would be more relevant to the latter view, as the lexeme will be taken as the basis for generating both the active and the passive forms.

Another group of verbs that deserves special attention is that of verbs which are voice-wise formally restricted to the 'passive', e.g. /ʕuniya/ 'to concern oneself with', /zuhiya/ 'to show off'. They are equivalent to the type of verbs known in Latin grammar as 'deponent verbs', in having their forms in the passive whereas their meanings are active.³ According to Sībawayhi,⁴ this kind of verb is actually transformed from originally active forms which are not used, e.g. /ḥumma/ 'to have fever', /junna/ 'to be mad' are originally of the unused active forms /ḥamamtuhu/ 'I made him feverish' and /janantuhu/ 'I made him mad'. This interpretation was considered as favouring the Baṣrite attitude where the passive voice is regarded as branching from the active, not as an independent entity.⁵ However,

¹ Cf. Al-Ḥamalāwī, op.cit., p.51.

² Palmer, Grammar, pp.36f.

³ See Dictionary of Language and Linguistics, p.62.

⁴ Op.cit., 2, 253.

⁵ Loc.cit.; cf. Al-Ḥadīṯī, op.cit., pp.430f.; Al-Ḥamalāwī, op.cit., p.53.

a number of this type of verbs have on rare occasions been used in the active forms as well, although in the standard language (al-faṣīḥah) they were always restricted to the passive forms, e.g. /buhita, bahita/ 'to be surprised', /zukima/ 'to catch cold', /zakama/ 'to cause to catch cold', /huzila/ 'to be emaciated', /hazala/ 'to cause to be emaciated', etc.

5.2.3 MOOD

'Mood' is generally defined as "Grammatical distinctions in verb forms which express a speaker's attitude to what he is saying".¹ Those grammatical distinctions are expressed in some languages by modal auxiliaries, such as the English: will, must, ought, may; while in others such as Arabic they are expressed by inflectional affixation.

Among Semitic languages, CA is said to be the one with the greatest number of moods. These are six (indicative, subjunctive, jussive, energetic, cohortative* and imperative) of which the base-form in Arabic is shown by the singular form assigned to the jussive or the imperative;² but not by the imperfect 'indicative' which though a declarative statement or fact, is grammatically marked in Arabic.³ However, it might be more appropriate to think of the modal base-form as any of the modal forms before the suffixation of its modal endings,

¹ Dictionary of Language and Linguistics, p.144.

² Gray, op.cit., pp.85f.

³ Cf. Dictionary of Language and Linguistics, p.144; and loc.cit.

* The status of this form is perhaps dubious; see below.

since the general understanding in Arabic grammar seems to be that the 'indicative' - though inflectionally marked - is the origin of derivation for other modal forms which are derived by various replacements of its inflectional ending. Such a notion may be supported by the idea that

"The peculiar meaning of the Jussive has brought along with it the rejection of the final vowel, which seems originally to have been /i/. At least the poets make use of the form 'ya-qtuli' in rhyme."¹

One may also find support for this attitude in the fact that the stem-vowel of the imperfective is never a fathah /a/, except when the second or third radical is a guttural, otherwise it is either a dammah /u/ or kasrah /i/. Because of this fact, the Arab grammarians came to the conclusion that any such /a/ must be an alteration of the original vowels /u/ or /i/.² And as the kasrah /i/ is out of the modal question with which we are here concerned, the dammah /u/ will give support to the attitude under consideration, in terms of vowel harmony.

Of these moods the energetic presents a particular problem in that its characteristic endings can be added to two different bases, the yaktub - from which the indicative, subjective and passive are formed and the uktub - from which the imperative is formed. For this reason it might be preferable to posit two moods corresponding to the traditional imperative, which we may label 'imperative' and 'energi^cus' respectively. This 'energi^cus' is to be distinguished from the 'energetic'

¹ Wright, op.cit., 1, p.60, and cf. vol.2, pp.385f.

² Al-Raḍī, 1, pp.114ff.

(see below).¹ This is perhaps one of the places where one can see why the 'Imperative' - which is generally regarded as a division in the 'Mood' category' - is always considered by the Arab grammarians as a division in the category 'Tense'. As in this case, the imperative shares with the 'imperfect' the same status with regard to the mood 'energetic'. For the sake of convenience, the terms 'energicus' and 'energetic' will be used in this grammar to distinguish respectively the 'Imperfective' and the 'Imperative' in terms of this mood.

The subjunctive', the 'jussive' and the 'energetic' are said to have had their meanings best retained in Arabic, with the two forms of the 'energetic' (e.g. yaktub-anna, yaktub-an) being retained together only in Arabic and Hebrew. Both the energetic suffixes (-anna and -an) are used with both the imperfective and the imperative in Arabic. The optional ending (-an) of the energetic imperative is sometimes shortened by the elision of /n/, with a compensatory lengthening of the /a/. This is sometimes thought of as the 'cohortative mood' in Arabic. Otherwise, moods of the Arabic verb are only five.²

In general, the modal endings for the discrete moods are: -u 'Indicative', -a 'Subjunctive', -anna (-an) 'Energetic/Energicus' and \emptyset (i.e. quiescence) for the 'Jussive' and 'Imperative'. In some forms of these moods, the endings may be subjected to or subject

¹ Cf. Wright, op.cit., 1, p.52.

² See Gray, op.cit., pp.86,89; cf. ibid., 1, pp.51,61.

the forms to various operations of alterations or elision, which are practically demonstrated in the relevant sections of this grammar. To give some examples: the dual and the masc. plural endings of the indicative form are respectively -āni, -ūna which are shortened to -ā and -ū in the subjunctive, the jussive and the imperative (e.g. yaktub-ā, yaktub-ū, ?uktub-ā, ?uktub-ū); the ending of the plural masc. and that of the second person sing. fem. are respectively shortened to -u and -i in the energetic forms whose suffix in these cases should be also shortened to -nna, e.g. taktub-unna and taktub-inna. In the case of 'dual' the energetic is formed by a replacement of the suffix with -ānni, e.g. yaktub-ānni; and in this case, as in three other cases, the optional (-an) is not allowable.¹ Of the different types of verbs, the medial and the final weak verbs undergo certain phonological alterations. Their approximants, whether medial or final are shortened in the jussive mood, e.g. yaqūl → yaqul, yuqīm → yuqim, yaxśā → yaxśa, yarmī → yarm^mi, etc. The final-weak verb of base-form pattern {c₁a(i)c₂ay₃} yields in the subjunctive mood an amalgamation of v₂ and c₃ into -ā, which makes it of the same formation as the Indicative, e.g. yarday → yardā.² This is of course according to the stem conceptualization in this grammar which takes the lexeme as it is in its original form before any phonemic alteration.

5.2.4 THE PERSONAL PRONOUNS

With the exception of the 'Compound Pronouns', which are actually beyond the domain of the verbal structure, as they are actually

¹ Cf. Wright, op.cit., 1, pp.60-62, Al-Ḥamalawī, op.cit., pp.58f.

² Cf. Altoma, op.cit., p.64.

beyond the domain of the verbal structure, as they are formed of the pronominal suffixes appended to /ʔiyyā-/ (i.e. /ʔiyyā-/ + 'a pronominal suffix') and used to express the object, unattached to the verb for the sake of emphasis or precision; with this exception, the 'Personal Pronouns' are classified into 'Free' and 'Bound' Forms:

5.2.4.1 Free Forms

The free forms, which are sometimes called 'Absolute Forms',¹ are independent personal pronouns distributed categorically as follows:

TABLE 5.J FREE FORMS OF PERSONAL PRONOUNS

1	'1s: first person singular'	ʔanā
1P	'1pl: first person plural'	naḥnu
2	'2ms: 2d sing. masculine'	ʔanta
2F	'2fs: 2d sing. feminine'	ʔanti
2P	'2m.pl: 2d plural masculine'	ʔantum
2PF	'2f.pl: 2d plural feminine'	ʔantunna
2PD	'2d.(m.&f.): 2d [pl] dual'	ʔantumā
3	'3ms: 3d sing. [masculine]'	huwa
3F	'3fs: 3d sing. feminine'	hiya
3P	'3m.pl: 3d pl. [masculine]'	hum
3PF	'3f.pl: 3d pl. feminine'	hunna
3PD	'3d(m&f): 3d [pl] dual'	humā
3FD	'3d.f.: 3d fem. dual'	—

¹ See O'Leary, Comparative Grammar of the Semitic Languages, pp.139ff.

(Symbols of the first column are presented here by way of anticipation, as they will be labelling the categories named, in the following tables. The label '3FD' has no 'free form' other than that of '3PD', but it is placed here for expository purpose, as it will appear in the next tabulation for 'bound forms' where it is separately marked).

One important point to be made about these 'free forms', is the possibility of their segmentation. Examination of these 'free forms', compared to the pronominal suffixes of the subject in the 'Imperfective', would suggest the segmentability of the second person 'free forms' into /ʔan-/ plus the subject-suffixes, whereby /ʔan-/ appears as a stem.

This question of segmentability has been tackled by Trager and Rice.¹ They convincingly rejected the idea on the grounds that such an analysis would be unusual since the suffixes referred to are verbal whereas the free form pronouns are nominal rather than verbal. Furthermore, if /ʔan-/ is to be regarded as a stem, then the terminal /-ā/ of /ʔanā/ 'I' should have been one of those suffixes. But in fact /-ā/ is not parallel to any other first singular form. Hence, /ʔanā/, /ʔanta/ etc. should be left unsegmented, and the form $\sqrt{a}\text{ʔant(a)}$ should be regarded as the longer form of $\sqrt{2}^*$ (\sqrt{a} = morpheme, $\sqrt{2}$ = allomorph). As segmentation is thus shown to be of no benefit in this respect, one is rather inclined not to take this question any further.

¹ Trager, Geroge, L. and Rice, Frank, A. 'The Personal-Pronoun System of Classical Arabic', *Language*, 30 (1954) 224-229.

* The shorter form of which is the verbal suffix -ta.

5.2.4.2 Bound Forms

Bound forms of the Personal Pronouns are classified into 'nominals' and 'verbals'.

The 'nominals' class comprises suffixes that indicate 'object of a verb', 'possession', or particle (e.g. preposition) relation. The suffix as 'object of a verb' is what concerns us in this class. Others have nothing to do with the verb, although description of the object-suffixes would in fact apply to them.

The 'verbals' class marks the inflectional distinction between perfect and imperfect, with regard to person, number and gender, by suffixed pronouns in the case of the former, but by both suffixed and prefixed pronouns in the case of the latter.

Prefixes for the imperfective are conceived as mainly temporal (or aspectual), but they also express person and to some extent the gender as in the case of third person singular feminine /ta-ktub/, distinguished from its masculine form /ya-ktub/. On the other hand, suffixes mainly mark the gender (e.g. second singular feminine /taktub-īna/ vs. the masculine form /taktub/), and number.

The entire sets of prefixes and suffixes are distributed (in the paper by Trager and Rice) in the following table, where column I lists the labels as defined in the preceding table; II lists suffixes

indicating possessor or object of a verb; III for suffixes of the subject in the 'imperfect'.

TABLE 5.K THE SET OF PRONOMINAL PREFIXES AND SUFFIXES

<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>
1	-ī~-ya, -nī	-tu	?-
1P	-nā	-nā	n-
2	-ka	-ta	t-
2F	-ki	-ti	t- ... -ī (na)
2P	-kum	-tum	t- ... -ū (na)
2PF	-kunna	-tunna	t- ... -na
2PD	-kumā	-tumā	t- ... -ā (ni)
3	-hu	-a	y-
3F	-hā	-at	t-
3P	-hum	-ū	y- ... ū (na)
3PF	-hunna	-na	y- ... -na
3PD	-humā	-ā	y- ... -ā (ni)
3FD	—	-atā	t- ... -ā (ni)

(In column II, the pronominal object of a verb is /-nī/. As for /-ī/ and /-ya/, they are alternative 'possessive' forms, i.e. they are not verbal. But I keep them here as they were presented only because they are going to appear again in the final table which I intend not to alter. Every /a/ vowel in this table is a respelling of an original /ǣ/, a small dash on a vowel (i.e. ā, ī, ū) is a respelling of an original vowel plus macron, and /?/ for an original /'/.)

A significant point that needs to be emphasised at the outset is the fact that the category-formative relationship is not always a one-to-one correspondence. In Arabic this principle is overwhelmingly maintained in most of the discussions related to the personal-pronoun question.

The set of oppositions displayed by the members of the different paradigms is always expected to reveal in a clear-cut fashion the grammatical functions of the various morphemic elements in the whole word. But as an isolate each of these morphemic elements is susceptible to grammatical ambiguity. Take the affix /ya-/ which serves as 'third person singular masculine' prefix in the imperfective it could also serve as 'third person plural masculine or feminine' prefix. A similar problem arises with the duality suffix and others. The principle of intelligibility would require the bound morphemes such as those of tense and number to bear their grammatical significances individually. But as they are much clearer in the word as a whole, one is tempted to find the way out of such a grammatical ambiguity in terms of the concept of 'cumulation' of the categories in a morphemically indivisible segment, which is freely admitted in Latin, Greek and Sanskrit. This is of course, more in accordance with WP.

An interesting discussion of the conflated prefix-suffix sets of formatives in Arabic is presented in a paper by Pike and Erickson.¹

¹ Kenneth L. Pike and Barbara Erickson, 'Conflated Field Structure in Potawatomi and in Arabic', International Journal of American Linguistics, 30 (1964) 201-212.

One of their particularly relevant statements is that

"The form-meaning co-occurrence requirement for the existence of a natural language system can be satisfied by formatives as form, plus categories as meaning, even when the form-meaning requirement is achieved only by the interplay of various one-to-many and many-to-one relationships of formative to category within a single matrix or within a conflated field of contiguous or non-contiguous matrices."

For matters of demonstration, some former references to personal pronouns have been made under this general understanding. This should have no contrasting effect or bearing on the following chapter, where only the conclusions under the sub-heading 'Personal Pronouns' will be used.

Forms of the Personal Pronouns seem to have been best analysed and presented in the previously mentioned paper of Trager and Rice. The major merit here is that it maintains the significant principle of 'total accountability', in addition to the economical and compact labelling of the forms. A brief account of this analysis is necessary here so that it may be resorted to for consultation, whenever a reference is made to a pronominal form in the following chapter. The best way to go about this is to present the accompanying table, as a summary of the total analysis.

Before this, it may be more profitable - in order to see by way of comparison how significant the role of this principle of 'total accountability' is in resolving the pronominal ambiguities - to start with another version of the pronominal discussion, where the high degree of formative-ambiguities has been given prominence. This is the study

referred to, where Pike and Erickson have chosen the indicative imperfect strong verb stem of Arabic to demonstrate the pronominal-affix ambiguities in two stages:

(1) They first point out the category meanings for the prefix set and the suffix set as reflected in two different matrices. From these matrices they abstract a smaller feminine matrix of persons 3 and 2, for each of (a) the prefix set, and (b) the suffix set.

TABLE 5.L

MATRIX OF FEMININE AFFIXES

(a) Feminine Prefix

	S	d	P
3f	t	t	y
2f	t	t	t

(b) Feminine Suffix

	S	d	P
3f	<u>u</u>	āni	na
2f	īna	āni	na

The contrast between 3 and 2 is thus shown to be in the plural in (a), whereas it is in the singular in (b). The masculine contrasts are clearly seen as more conspicuous in the following stage.

(2) They then produce a total Field Structure of the Arabic imperfect strong-verb affixes, in which blocks forming an adjacent set of occurrences of a particular formative are brought about by permutation.

Figure 5.J

Total Field Structure of Imperfective
Affixes

		s	d	p	
		u	āni	ūna	na
3m	y	-	-	-	
3f	t	-	-		
2m		-	-		
2f		ina	-		
1m/f	?	l	n		

Rows and columns are here arranged in a morphological matrix to help in discovering regularities, ranking and segmentation of patterns, e.g. "An L shape implies a ranking of category involvement". Solid lines group contrastive formatives of prefixes. Dotted lines group contrastive formatives of suffixes. Ambiguity is thus given prominence as reflected between 3fs and 2ms, 3fd and 2md and 2fd, 1d and 1P; whereas other cells are all clearly differentiated.

Turning back to the above-mentioned paper of Trager and Rice,¹ we find its purpose summed up in the introduction as,

¹ Op.cit., p.224.

"to display a procedure of morphemic analysis that makes maximum use of morpheme-segmentation, and classifies morphs* into morphemes in terms of recurrent partials within a fixed frame of reference consists of a text in which substitutions are made at various points and the resulting other changes are observed."

According to this plan they carry out their analysis of the personal pronouns, to end up with the frame of reference referred to, presented in the form of the following table:

TABLE 5.M THE PERSONAL-PRONOUN SYSTEM OF CLASSICAL ARABIC

01	'ana·	02	i·~ -ya, -ni	03	-tu	04	'-
11	naHnu	12	-na·	13	-na·	14	n-
21	'ant(a)	22	-k(a)	23	-t(a)	24	t-
21-F1	'ant(a)-i	22-F1	-k(a)-i	23-F1	-t(a)-i	24-F2	t-...-i·
21-P1	'ant(a)-um	22-P1	-k(a)-um	23-P1	-t(a)-um	24-P2	t-...-u·
21-P1-F3	'ant(a)-um-na	22-P1-F3	-k(a)-um-na	23-P1-F3	-t(a)-um-na	24-P3-F3	t-...∅-na
21-P1-D	'ant(a)-um-a·	22-P1-D	-k(a)-um-a·	32-P1-D	-t(a)-um-a·	24-P3-D	t-...∅-a·
31	h[u·](a)	32	-h[u·]	33	-(a)	34	(y)-
31-F1	h[u·](a)-i	32-F4	-h[u·]-a·	33-F5	-(a)-t	34-F6	(y)-t-
31-P1	h[u·](a)-um	32-P1	-h[u·]-um	33-P2	-(a)-u·	34-P2	(y)-...-u·
31-P1-F3	h[u·](a)-um-na	32-P1-F3	-h[u·]-um-na	33-P3-F3	-(a)-∅-na	34-P3-F3	(y)-...∅-na
31-P1-D	h[u·](a)-um-a·	32-P1-D	-h[u·]-um-a	33-P3-D	-(a)-∅-a·	34-P3-D	(y)-...∅-a·
				33-P5-D	-(a)-t-a·	34-F6-D	(y)-t-...-a·

* They call the partials 'MORPHS' and classify them into 'MORPHEMES'. The fact that these definitions do not correspond to the previous definitions of these terms, is pointed out by them in the first page, and hence it should not bear any confusion.

To explain the number-and-letter notation that is used in this table to facilitate structural comparisons, Trager and Rice write:

"The symbols 0-, 1-, 2-, 3- will be used respectively for first singular, first plural, 2d, and 3d person (stems or affixes). The categories in the four columns previously presented will be indicated by a second digit, -1, -2, -3, -4; thus ?anā is 01, ?anta is 21, and so on. The letter F will designate the 'feminine' morpheme, the allomorphs being numbered from 1 to 6, in the order in which they appear (horizontal, then vertical) in the table; P is 'plural', with allomorphs numbered 1 to 3 in the same way; D is 'dual'. Note that the terms feminine, plural, dual are labels, not definitions or descriptions."

One further point to be added to this quotation is that the fourth column of this table should always be considered in comparison with the preceding table for the total field-structure of the imperfective strong-verb affixes which presents the personal pronouns in their basic forms, as they appear in the indicative formation.




5.2.4.3 General Observations

For further clarification, it may be desirable to make the following remarks about this table:

(1) All free pronouns in the first column are to be pronounced as they were in their original forms before segmentation. The segmented forms here can be traced back to their origins according to specific processes stated as part of the general analysis.

(2) The brackets '()' indicate a potential loss of the bracketed phonemes under statable morphophonemic conditions (the syntactically governed endings of /al-ʔaflāl al-Xamsah/ 'the five verbal forms' are in this table omitted) e.g. (a) of -k(a) is part of the second person accusative pronoun, but as it disappears before other affixes beginning with vowels, brackets are used to indicate this fact. Also the 'third person' prefix in the imperfective form is put into brackets (y) because of its potential loss before the 'Fem. prefix' -t-.

(3) Related to this second point is the fact that -a which consistently follows the prefix (y) -t- (i.e. this prefix is expected to be (ya) -ta) is missing in this table as if it is considered part of the verb, while it is in fact part of the prefix; unless we think of it as the first vowel of the perfective (which is always -a-) shifted to the first phonemic position in the imperative. This applies as well to the 'second person' prefix 't-'. However, whichever way we may think of it, this point should always be kept in mind.

(4) The square brackets "are defined as meaning loss of -u'- before the vowel-initial affixes -um, -um-na, -um-ā", except in the 'third person' accusative affix -h[u'] where the brackets should mean only loss of . This  is a morphophoneme postulated by Rice to mean 'semivowel', and to be automatically replaced by /w/, /y/, /ʔ/ or /·/ under statable conditions, e.g.  is /w/ after u before a vowel, giving the actual form /huwa/ 'he'.

(5) The feminine plural suffix of the subject (second and third person) /-unna/ is - for economical reasons and to match the plural suffix /-um/ - divided into /-um-na/ "with automatic replacement of m by n before n".

(6) The symbol -∅ is a zero allomorph representing 'plural'. It is postulated before 'Feminine' -na and 'Dual' -ā (in the second person imperfect and in the third person perfect and imperfect), because these two suffixes appear elsewhere preceded by 'plural' morphemes. In this respect "F and P are seen to be mutually exclusive before D".

(7) Most noticeable in this paper is the fact that the table contains no symbol for 'masculine'. This is obviously meant to imply that the form is Masculine unless (F) 'feminine' gender is morphemically marked. This idea is almost overtly expressed in their writing [Masculine] between square brackets throughout the column defining the labels; also in writing /a/ of -ka and -ta between brackets, so that the segmented forms should be written thus: -k(a), -k(a)-i, -k(a)-um, ...-t(a), -t(a), -t(a)-i, etc. To rule out the possibility of considering this (a) as 'masc.' marker, they state that it is "lost under storable syntactic conditions". To me these syntactic conditions are not as clear as I can see them in the case of -(na) and -(ni) of 'al-ʔaflāl al-Xamsah'. Furthermore, they say in the same place about (a) "we conclude that it is a part of the morphs -ka and -ta, and say that it automatically disappears before additional affix-material beginning with a vowel". This is again just another way of avoiding the specification of a morphemic segment as a 'masculine' marker. Nonetheless, they eventually

had to use the term twice in the body of their paper: (a) "In column II the masculine affix is -hu", (b) "In column III the masculine third person has -(a)". But even then, a close scrutiny would reveal the same general attitude lying behind these two statements. However, one must acknowledge the advantage of this restriction in setting up a good number of other forms of pronominal affixes, a merit for which the table as a whole is justifiably acceptable.

(8) The endings /na/ and /ni/ of /al-ʔaflāl al-Xamsah/ 'the five verbal forms' denote the 'indicative' mood of the Imperfective, as they disappear in the cases of subjunctive and jussive moods. Thus, they are syntactically governed. But their omission is only allowable because the person, number, and gender are distinctly signalled. On the other hand, the ending ɖammah /u/ of the Imperfective is to mark the indicative mood, therefore it disappears in the jussive mood and is replaced by an /a/ in the subjunctive. It is thus purely syntactical. The question then is where the personal pronoun for masculine gender in this case is, i.e. bearing in mind that /y/ in /yaktub/ is specified for third person, where is the marker for masculine gender? If proposals were allowable here, one would tend to postulate a Ø morpheme for masculine in the Imperfective, in order to conform with the above-mentioned principle of 'total accountability', as this is the only place where this pronoun is missing, whereas it is provided for both in the perfective and as object of a verb. The point being made here is about existing affixes, which is different from the previous question as to whether they should be labelled as 'masculine'.

(9) In the suffix /nī/ which expresses the first person accusative, /n/ is actually an augment, i.e. it does not take part in denoting the accusative, although Wright seems to imply that it does to some extent. His inclination to this interpretation is possibly due to the fact that /ī/ of this suffix is sometimes (very rarely) elided in usage, e.g. /ʔittaqūn/ for /ʔittaqūnī/ 'fear me'. However, the /n/ is inserted to serve a purely phonological purpose, which is to "prevent the final vowels of the verb from being absorbed by the long vowel [/ī/]". For this reason it is called by the Arab grammarians /nūn al-wiqāyah/ or /nūn al-ḡimād/ 'the guarding or supporting /n/'.¹ Nonetheless, the fact that this accusative suffix is never without this attached /n/, should suffice to justify the /nī/ suffix being presented as a one unit suffix in the paper of Trager and Rice. One further point to be added here is that this suffix is sometimes replaced by /niya/, but this form is rarely and mainly used in /waṣl/ 'word-juncture' or in poetry.

(10) Prefixes in the Imperfective are in this paper always regarded as person or gender markers, and this is unlike the usual procedure which regards them as, at least partly, aspect/tense markers. The only justification for this attitude is perhaps that the whole question is here considered under the category of aspect/tense, and hence whichever categorical description is given to any affixal pronoun it is here considered as related in part to aspect/tense category. There is however another way of looking at this matter, which is for

¹ See Wright, op.cit., 1, p.101; cf. O'Leary, op.cit., 1.150.

it to be viewed in terms of what Hamp¹ calls 'cumulative conditioning', referring to the environmentally complex conditioning features that are sometimes involved in selecting one given allomorph rather than another.

In conclusion, one should emphasise that these observations should in no way diminish the value of the findings of this paper, which are in fact ideal for our purpose.

¹ Eric P. Hamp, 'The Personal Morphemes of Classical Arabic', Studies in Linguistics, 14 (1959) 21-22.

VI

THE GRAMMATICAL RULES
(APPLICATION)

VI

THE GRAMMATICAL RULES

(APPLICATION)

6.0 INTRODUCTION

Having already mentioned the fact that there are no semantical grounds for imposing one sequence of properties rather than the other within the grammatical word structure; and that the rules are expected to be ordered internally, but not necessarily externally;¹ the question that immediately poses itself is whether there are any other grounds - concerning CA in particular - for the external ordering of the rule-groups or 'categories'?

'Complexity' is pointed out by Matthews² as one possible factor for the external ordering. He states that

"... our exposition will be clearer, it seems, if the separate stages are discussed in reverse order: ending rather than beginning with the derivation of the primary stems. In this way, the major complexities will be handled in the earlier paragraphs."

¹ See pp.203f., 273f.

² The Main Features of Modern Greek Verb Inflection, pp.267-68.

Schramm¹ takes the 'predictability' of morphemic shapes on one another as a possible criterion for ordering the morphophonemic rules. On this ground, and on the assumption that predictability of the morphemic shapes has some relationship to historical development, the conclusive statement was that

"If there is any validity in this assumption, then, of the various finite verbal stems in Arabic, the imperative is the oldest one, since the shapes of other stems may be completely predicted starting with the imperative and not vice versa."

It seems to me that this idea of the 'Imperative' being the starting point in the derivation of the stem-series, is very much relevant to the modal forms of the verb and it is of relevance to what Gray² has said in this respect. But taking 'mood' into consideration in the stem analysis, should equally involve other categories (e.g. aspect/tense, gender) whose affixal formatives include prefixes as well as the modal suffixes. That is why it may be better not to involve the grammatical categories in the specification of the stem base-form, as we shall see in this grammar.

However, out of these remarks one gets the general impression that although the external ordering of the rule-groups or 'categories' is not a condition; it is preferable and it should be logically reasoned in one way or another. In our case (i.e. CA)

¹ An outline of Classical Arabic Verb Structure, p.374.

² Introduction to Semitic Comparative Linguistics, p.86.

this is intended to be generally observed, as it will be reflected in the brief introductions for each of the Stem-Rules and the V-Rules sections.

VI.I

GUIDING NOTES

6.1.0 It is necessary to acquaint ourselves with the following guiding notes before looking into the Rules Sections. The Rules themselves are in this grammar based on a comparison of their sets in a number of the texts concerned with CA grammar.* The more complex, or of multi-choice option, the background of a rule is, the more investigation was required to be exerted. But as this grammar is meant to be self-explanatory, comments - included in these Guiding Notes - to explain the change processes lying behind the rules, are kept to the minimum. Major issues that require further explanation (e.g. augmented forms, weak verbs, etc.) are already dealt with in Chapter V. The Notes are here grouped under subtitles according to their types of relationship.

* The major sources consulted for this purpose were: Sībawayhi, al-Kitāb (2 vols); Astrabādhī, Šarḥ Šāfiyat Ibn al-Ḥajib; Ibn Jinnī, al-Munšif: Šarḥ Tašrīf al-Mazīnī; Abu Ḥayyan, Manhaj al-Salik fī al-Kalam ʿala alfiyyat Ibn Mālik; AlḤamalāwī, Saḍa al-Šarf fī fann al-šarf; Al-Ḥadīṯī, Abniyat al-Šarf fī Kitāb Sībawayhi, Šāhīn, al-Manhaj al-šawṭī lil-binya al-Šarabiyyah; Wright, A Grammar of the Arabic Language.

6.1.1 GENERAL REMARKS

(1) In order to conform with (R) as the closing stage in the 'procedure' for interpretation of Rules, an absolute Rule which is to go with, and be understood as the 'overall' supreme general Rule of the entire group of each division of the 'Grammatical Rules' is the Rule:

[L] Dis Mor, R

(i.e. Each (L)exeme is derived from a (R)oot by a (Dis)continuous (Mor)pheme, which is determined lexically.)

(2) It is to be understood that any suffixal operation associated with a verbal form is to be applied to the operand of the verbal type concerned in its resultant form, after its operations and those of the stem or stems (if any) from which it has been derived are carried out.

(3) Always do the operation(s) preceding the operand-index-symbol, before adding the specified suffix (if any) to the operand.

(4) The skeletal representation of the verbal forms in the 'Limitation' component is of the form $(c_1-c_2-c_2)$ which symbolizes the three radicals of the verb. Doubled (geminate) verbs are indicated by the doubling of c_2 thus $(c_1-c_2-c_2)$, whereas weak verbs are indicated by a semivowel (approximant) insertion in one of the three positions thus $w_1-c_2-c_3$, $c_1-y_2-c_3$, or $c_1-c_2-w_3$; and so is the

case with the hamzated verbs, e.g. $?_1-c_2-c_3$, etc. Augmented forms will be represented by the Roman Numbers (from I to XVII) attached to the skeletal form, e.g. III($c_1-w_2-c_3$) (i.e. the third form 'pattern' of the medial-weak verb).

(5) Any rule about a given type of verb (e.g. $c_1-c_2-c_2$) applies to its augmented forms, unless otherwise indicated.

(6) With the augmented forms, comprising more than two vowels, the vowels will be symbolized as v_1 , v_2 and v_3 successively (the Imperfective prefixed vowel /a(u)-/ does not count). This practice does not change when one of these vowels is subjected to alteration or omission, e.g. v_2 in the operation $(-\text{?u}, \pm v_2:a)$ of S^3 for the form VII is the same as v_2 of S^1 , although v_1 has first been altered into u then omitted as part of the operation $(-\text{?u},)$.

(7) In the transitory stem T' (i.e. Passive Imperfective stem) /a/ in the operation $(+a:u)$ refers to the prefixed /a/ of the transitory stem T (i.e. Active Imperfective stem). Other /a/(s) in the T-stem (if any) are referred to as v_1 , v_2 or v_3 , according to their position. Also in the operations (pro a, pro u) of the Imperfective rules (Active and Passive), /a/ and /u/ will be referring to the prefixal vowels.*

* These two prefixed vowels (/a/, /u/) of the Imperfective stem are - for economy - given the cover-symbol (v+) in the section for 'Moods of the Imperfective'.

(8) When a hamzah (glottal stop) clusters with a following consonant, it should be realized as a prolonged form of the vowel preceding it, if that vowel is preceded by another hamzah (e.g. ʔaʔman → ʔāman). Otherwise it is optional^{for it} not to be changed (e.g. ʔistaʔear or ʔistāear).

(9) So far as negation is concerned, the Perfective is inflectionally not affected. The Imperfective is inflectionally marked in the form of one of three moods: Indicative, Subjunctive or Jussive (depending on the specific negative particle: mā, lā, lan or lam), and the Imperative is negated by having the same formation as the 'Imperfective Jussive' (e.g. lam tarmi → lā tarmi, lam taʔkul → lā taʔkul, lam tasʔal → lā tasʔal or lā tasal, etc.). This grammar is thus capable of producing the negated verbal forms, although the negation-particles themselves are beyond the domain of the grammatical word structure.

(10) Objects are sometimes expressed pronominally by the 'Accusative Pronouns' which are to be suffixed (as required) to the verbal form at the final stage of the derivation. As such they are an integral part of the grammatical word structure, and are expected to be generated (like other segmental parts of the word) by the grammar concerned. But the fact that neither the verbal form (whether it is a bare stem or a stem categorically qualified with other pronominal affixes) nor the 'accusative pronoun' change form

in their integration in a word, makes it redundant to involve the 'accusative pronouns' in the Rules' making and ordering. In other words, if all that is required to express a pronominal as part of a word, is to suffix the given accusative pronoun as it is (with no alteration) to that word, then what is needed is just a tabulation of the 'Pronominal Objects' thus:

Pronominal Objects

	Sing.	Dual	Plur.
3rd	/hu/~/hi/	/humā/~/himā/	/hum/~/him/
f	/hā/	/humā/~/himā/	/hunna/~/hinna/
2nd	/ka/	/kumā/	/kum/
f	/ki/	/kumā/	/kunna/
1st	/nī/~/niya/	/nā/	/nā/

(The 3rd person allomorphs beginning with /hi/, occur when the preceding phoneme is /i/ or /ī/, otherwise the morphemes beginning with /hu/ are to occur. The allomorph /niya/ occurs mostly in word juncture.)

6.1.2 RULE-ORDER

(1) The Rules are ordered in a way such that the exceptional ones fall before the general rules. But in the overall order, most of the rules do have clash (inflectional overlapping) with certain others. For this reason, most of the rules have had to be indicated

as preceding other specifically contrasting rules with which they do have clash either in the 'reference' or the 'limitation' component.

(2) When two rules are similar in both their 'Reference' and 'Formation' components, the difference in their 'Limitation' component is usually intended to exclude the rest of the forms which are usually captured by the 'supreme' general rule (Cf. Rules 80 and 81 of the: 'Moods of the Imperfective').

(3) The Rules 31, 32, 46 and 53 (in: The Active and Passive Perfectives) represent together a rare case, where a verbal form that escapes the rule (or rules) involving its 'base-form' in the 'Limitation' Component may not be captured by the next rule to which the rule concerned is not an exception, but are captured by the relevant final 'supreme' general rule of the given section.

6.1.3 OPTIONAL RULES

(1) When more than one stem - in a sequence (e.g. I, T, T') or otherwise - of the same basic form have optional rules, each optional stem is derivable directly from its operand as realized in the original rule, not from the stem optional to that operand (if there is one), e.g. the optionals of T and T' stems of the basic form /ʔiʔtaman/.

(2) Optional rules in the 'stem-formation' section are to

apply automatically to the paradigm-formation (V-Rules), unless a given paradigmatic item (verbal form) is restricted to a specific option where the choice is then reduced to one, e.g. Cf. Rule 34 of the: 'Moods of the Imperfective', with Rules 12 and 13 of 'The Transitory Stems 'T' ', where the only choice in the case of the [1st, sg. imperfective] regarding the formatives IV and VIII is the replacement of the 1st radical hamzah by prolongation of the preceding vowel (i.e. ʔuʔmin → ūmin, ʔaʔtamin → ātamin). The free 'option' is thus restricted to paradigmatic items (verbal forms) other than the [1st, sg] formation.

6.1.4 RULE-GENERALIZATION

(1) Verbs that are by their nature restricted to their own subjects (i.e. take no object as a goal), e.g. /marid/ 'to become sick', are voice-wise neutral. But in this grammar, some verbs of this type (e.g. /ṭawul/ 'to become tall', /saruw/ 'to become noble') are given passive stems, in order to allow for the succession of the stems derived from one another. This is in addition to the potential use of the passive form of such a verb when compounded with a prepositional phrase, i.e. followed by a preposition, which is a valid grammatical practise.

(2) Some augmented forms, such as form VII, are by their neutral nature not expected to produce 'passive' formation. But in

this grammar, they may have generalized rules in order to allow for the production of such a formation, when necessitated by such factors as the need for a loan-word in the 'passive' of such forms,¹ or the compounded prepositional phrase referred to in the previous point. In other words, there is no redundancy in generalizing such a rule, since this generalization is the only way of providing for such necessities.

6.1.5 PRONOMINAL AFFIXES

(1) The Personal Pronouns - whether prefixes, suffixes, or combination of both - are already specifically defined in terms of both form and meaning. Hence, it is merely a redundancy to try involving them - in their basic forms - in the rule making. Therefore, the rules will mainly involve the stem morphophonemics. The appropriate personal pronouns should thus be understood to be automatically affixed (in symbols or realized forms) to the derivatum of the rule concerned in order to set the required verbal form. The only exception to this is when the stem morphophonemics involve the paradigm. Namely, when in certain formations the change involves the form of a suffix (e.g. $[V_{pf,3,p1}]$ of ramay), in which case such a change has to be clearly stated, e.g. by the pronoun being suffixed - to the operand - in its altered form.

¹ Cf. Al-Karouri, al-Daxīl fī al-luġah al-arabiyyah, pp.296-99, 746ff., 808ff.

(2) When a suffixal pronoun is not only partly involved, but totally absorbed in the stem formation, this will be indicated by a zero mark 'Ø' following the representation index-symbol. However, the examples - in which the hyphens will separate stems from affixes - attached to each rule should reflect the specific pronominal suffix with which the rule is concerned.

(3) Unlike all operations which usually precede the 'Representation' symbol, suffixes in the V-Rules are - for economy - simply added to it in symbols or realized forms thus (I+ suffix).

6.1.6 BASE-FORM UTILITY

Both in the 'Stem-Rules' and the 'V-Rules' sections, the concept of 'Base-Form'¹ is used in determining the Limitation component of a number of rules. In such cases, the introduction of the vocalic pattern with the radicals symbolized by c's (e.g. (c₁uw_wac₃)), will be the peculiarity distinguishing this type of representation from the representation of verbs in their totality (e.g. (raʔay)) or merely with c's (e.g. (c₁-c₂-c₃)).

For further clarity, numbers of the rules utilizing the concept of 'Base-form' are brought up in the brief introduction for each Rule-section. The Utility of the 'Base form' concept is conspicuously manifest in the rules for weak-verbs, where the perfective/

¹ See pp.224ff.

imperfective distinction of forms mostly affect the 'formation' component.

6.1.7 WEAK-VERB RULES

(1) The Guiding Notes regarding weak-verbs, should be consulted together with the preceding discussion of 'Weak-Verbs' in Chapter V,¹ when the need arises for a clarification of the complex background of a relevant rule.

(2) Any verbal form with a given positional 'approximant', which has no special rule to handle, is handled by the rule for the same verbal form with consonantal occupant (e.g. Imperative-stems [singular] for /ramay/, /ṭaway/ and /jalas/ are all handled by the same rule), or by a supreme general rule.

(3) When the 'Limitation' component of a given rule involves an 'approximant', the weak-verb concerned is the one with the specified positioning of the approximant, no matter whether other radical positions are also occupied with approximants (e.g. /ṭaway/, /waqay/), with hamzah (e.g. /raʔay/) or with any other consonants (e.g. /ġazaw/, /bayaʔ/, /yasar/).

(4) The doubly-weak verbs are of a twofold inflectional behaviour. With regard to their 1st and 2nd radicals, they are

¹ See pp.259ff.

either of the pattern $w_1-c_2-y_3$ which resembles the initial-weak type, or of the pattern $c_1-w_2-y_3$ which resembles the final-weak type. In either case they are to inflect accordingly.

(5) The verb /wadaʃ/ is inflectionally exceptional to the grammatical rule which states that the initial /w/ of an initial-weak verb should be elided in the imperfective (also in the imperative) form when and only if the imperfective is originally of the pattern $(ya-w_1c_2ic_3)$. But it is treated as such (i.e. elision of the initial) - although the imperfective is of the pattern $(ya-w_1c_2ac_3)$ - because it is said to have been of the original imperfective form /ya-wdiʃ/, then the vowel /i/ was changed into /a/ in order to be in harmony - in a kind of progressive assimilation - with the final guttural radical. Other verbs of this type are: yadaʃ (to which yaðar - with no guttural - is analogically paired), yazaʃ, yaðar, yaqaʃ, yalaʃ, yalaġ and yahab. Two further verbs (i.e. /yaʔaʔ/ and /yasaʃ/) are added to this group with no apparent justification, as their perfective patterns cacic indicates that they are originally of the imperfective pattern ya-ccac.

(6) Augmented stem-forms of weak verbs pattern differently sometimes. But the difference in such cases is mostly related to the position of the approximant, no matter whether it is a /w/ or /y/. For this reason verbs in such cases will be expressed in patterns (canonical form) - rather than by themselves - attached to the

number representing the form concerned, e.g. IV{ c_1 - $w_2(y)$ - c_3 }, VIII{ $w_1(y, ?)$ - c_2 - c_3 }, II{ c_1 - c_2 - $w_3(y)$ }, etc. With respect to the medial-weak verbs, there should be kept in mind that the change of /w/ into /u/ or / \bar{u} / is parallel to that of /y/ into /i/ or / \bar{i} /. The final /w/ of a final-weak root is realized as /y/ in the augmented forms. In general, resorting to the skeletal pattern in representing the discrete verbs would be the practise, unless the rule is concerned with a specific verb which is to be phonemically realized.

(7) Form X of the initial-weak verb, inflects as it does in the case of sound verbs, except in the S^2 where the diphthongs /uw/ and /uy/ are realized as long vowels / \bar{u} /, a feature which it shares with form IV.

6.1.8 GEMINATION RULES

(1) In (exp)anding the (Con)traction of a geminate form, the vowel that should mediate between the two expanded identicals is the one preceding their contracted forms. This is also valid in the case of augmented forms, except for the imperfectives and the imperatives of form III where the mediating vowel is always an /i/ (e.g. yu - $\{addid$, $\{addid$).

(2) The geminate verb does not occur with forms IX, XI and XIII, since these forms are always augmented, with no recognisable triliteral verb as their original root. Nonetheless, on the same

grounds on which verbs like /ʔijlawwaz/ and /ʔiʕlawwaʔ/ were considered as augmented triliteral verbs, the form XIII is included in this grammar to reflect its possible formation from the various verbal types (including geminate) whenever that formation was found necessary for the production of a given word. As these three forms are by their nature geminate forms, the expansion of their identicals - when required by any morphological process - is carried out by the operation $\perp V$ (i.e. insert the specific vowel) e.g. /ya-qʕaʕrir-na/.

(3) With augmented forms (other than IX, XI and XIII) derived from a geminate verb, gemination is automatically and inevitably expanded in order to fill the radical positions (e.g. S^1 of XII: ʔirdawdad). In such forms, when contraction is required by any morphological process, the vowel that should precede the contracted identicals is usually the one that is separating them in the expanded form, e.g. ʔistaʕdad \rightarrow ʔistaʕadd.

VI.2

A P P L I C A T I O N

6.2.0 The WP approach is in this section applied to the CA verb bearing in mind the relevant references made in the previous sections of this work. The preceding 'Guiding Notes' are - as stated - to be given particular attention, in view of their expository function as an integral part of this section of application. This does not mean that the grammatical rules rely on these notes in order to function. The grammar is self-reliant, in terms of generating the required Arabic verbal forms. But for the benefit of the reader, the guiding notes will provide an answer to any question regarding a potentially puzzling point at a given grammatical rule. The two major divisions in this section are the one for Stem-Rules, and the other for V-Rules.

6.2.1 THE STEM-RULES

It is economically very beneficial for a grammar to have its discrete stem-forms derived from one another. In this grammar the Arabic verbal stems have been ordered in such a way that this benefit should be secured. The Arabic verbal forms are

traditionally dichotomized in terms of 'aspect/tense' into 'perfective' and 'imperfective', with each having the binary classification of voice. The Imperative is related derivationally to the Imperfective, with no voice involvement.

In order to work out the solution required, the traditional system of derivational priorities has had to be partly abandoned for the sake of the stem-ordering. The resultant system will thus be as follows:

(1) The Root in Arabic is an abstract entity. It is realizable only by means of a discontinuous morpheme. The combination of both is the Lexeme {L}, represented in the Arabic lexicon by the least verbal formation; and it always represents the perfective (Past-Tense) form. Therefore, the Perfective is considered as the 'Primary Stem' {S¹}, being directly derived from the lexeme {L} which is the minimal unit in the lexical realization. This equally applies to the augmented forms, of which the augmentation is actually a merely formal imposition which denotes nothing of the grammatical categories. In other words, augmented forms' S¹ will be like the basic forms, derivable from L, which in their case would mean L + augmentation. All this applies to the quadriconsonantal verbs and their augmented forms which are all together four. Added to the thirteen triconsonantal forms they will make seventeen forms in all, and will thus be symbolized by the respective Roman numbers XIV, XV, XVI and XVII.

(2) The secondary stem $\{S^2\}$ is then the one that is derivable from $\{S^1\}$ with the least complexity, i.e. the passive perfective.

(3) The Imperfective stem has to go through two stages in order to overcome the complexity of the contrasting prefixation between the quadriconsonantal verb on the one hand and the remainder of verbal forms on the other. Stage one is symbolized by $\{S^3\}$ for Tertiary stem, as it is directly derivable from $\{S^2\}$.

(4) The Imperative stem-form $\{I\}$ intermediates between the two stages of the Imperfective stem, in order to economize the derivational processes for both itself and the second stage of the Imperfective stem.

(5) The second stage of the Imperfective stem is actually a ' $\{T\}$ ransitory' stage between the Imperfective stem and the Imperfective verbal form. But this second stage is again divisible, for the same reason (i.e. the contrast of Active/Passive prefixes), according to the voice binary classification.

(6) The transitory stage of the Imperfective Stem for the Active verbal form is in this grammar symbolized by $\{T\}$. And $\{T'\}$ is the symbol for the transitory stage for the Passive form.

(7) One further point of relevance is that the 'Imperative'

is no longer considered a third equal of the temporal classification of the verb as it used to be in the traditional Arabic grammar. It is now one of the modal properties of the verb, and it will be treated as such in the Rule-making of this grammar.¹

6.2.1.1 The Primary Stems (S¹)

Diversity in operations as well as in the number of options allowable for each stem formation will have to be simultaneously taken into consideration, in order to produce all forms of the various primary stems. In other words, whereas verbs (primary stems) differ in terms of operations (i.e. some affixational, others of replacements, etc.), most of them will have the regular pattern of such a stem. But still others may have more than one stem form (optionals). This may also be one of the reasons why rules in this section - as well as in other sections - should as a group be internally ordered.

1. (Precedes 12)

[S¹] II-XIII {c₁-c₂-w₃}; ± c₃:y,L

(Cf. ġazzay, taġāzay, ʔistasray, etc.)

2. (Precedes 3, 4, 5, 11 and 12)

[S¹] X {c₁-w₂(y)-c₃}; ± c₂'v₃:ā,L

(Thus ʔistaqām, ʔistaḫār, etc.)

¹ See Sībawayhi, op.cit., 1, p.1f.; Abū-Ḥayyān, op.cit., p.4f.; Al-Ḥamalāwī, op.cit., p.25f.; Cf. Wright, op.cit., 1, p.51; Altoma, op.cit., pp.63-6; Schramm, op.cit., pp.363f., 367-70.

3. (Precedes 4, 5 and 12)

$[S^1]$ VII, VIII $\{c_1 - w_2(y) - c_3\};$ $\pm c_2'v_2'{}_3:\bar{a},L$

(Thus $\text{?inq}\bar{a}d$, $\text{?i}\chi\bar{t}\bar{a}r$, $\text{?ibt}\bar{a}\text{?}$, etc.)

4. (Precedes 5, 7, 8 and 12)

$[S^1]$ IV $\{c_1 - w_2(y) - c_3\};$ $\pm c_2'v_2:\bar{a},L$

(Thus $\text{?aq}\bar{a}m$, $\text{?ab}\bar{a}\text{?}$, etc.)

5. (Precedes 12)

$[S^1]$ $\{c_1 - w_2(y) - c_3\};$ $\pm v_1'{}_2'c_2:\bar{a},L$

(Thus $q\bar{a}l$, $\text{?}\bar{a}l$, $\chi\bar{a}f$, $b\bar{a}\text{?}$, etc.)

6. (Precedes 12)

$[S^1]$ VIII $\{w_1(y, ?) - c_2 - c_3\};$ $\pm c_1:t,L$

(Thus $\text{?itta}\text{?}al$, ?ittasar , $\text{?ittax}\bar{a}\text{?}$, etc.)

7. (Precedes 8, 9 and 12)

$[S^1]$ IV $\{ra\text{?ay}\};$ $- c_2,L$

(Thus ?aray.)

8. (Precedes 9 and 12)

$[S^1]$ IV $\{?_1 - c_2 - c_3\};$ $\pm v_1'c_1:\bar{a},L$

(Thus $\bar{a}\chi\bar{a}\text{?}$, $\bar{a}\theta ar$, $\bar{a}man$, etc.)

9. (Precedes 11 and 12)

$[S^1]$ VIII, IX, XI-XIII $\{\tau_1-c_2-c_3\}$; $\pm v_1'c_1:\bar{t}, L$

(Cf. $\tau\bar{t}$ aman, $\tau\bar{t}$ θarr, $\tau\bar{t}$ mawmar, etc.)

10. (Precedes 12)

$[S^1]$ III, IV, VI-XIII $\{c_1-c_2-c_2\}$; Con, L

(Thus $r\bar{a}dd$, $tar\bar{a}dd$, $\tau ar\bar{a}dd$, $\tau inr\bar{a}dd$, $\tau irt\bar{a}dd$, $\tau istar\bar{a}dd$, etc.)

11. Optional (Precedes 12)

$[S]$ X $\{\tau_1-c_2-c_3\}$; $\pm v_2'c_1:\bar{a}, L$

(Thus $\tau ist\bar{a}man$, $\tau ist\bar{a}\theta ar$, etc.)

12. $[S^1]$ L

(Cf. katab, fariḥ, śaruf, ġazaw, ramay, saruw, raḍiy, saṣay, ṭakal, qaraṭ, radd, mall, dahraj, ṭawjad, taṣallam, ṭijtihad, ṭistakṭar, ṭixṣawsan, ṭijlawwaḏ, etc.)

13. $[L]$ Dis Mor R

(The examples for this rule are those of rule (12), in which the radicals represent 'R' whereas the vocalic patterns represent 'Dis Mor'. In the case of the augmented examples, the 'Dis Mor, R' formation is attainable by counting out the augments, whether vocalic or consonantal.)

6.2.1.2 The Secondary Stems (S^2)

The secondary stems are derivable from the primary stems, with a paralling diversity in terms of operations. And they may also have optional rules. In accordance, rules may be distributed as follows:

1. (Precedes 24)

$[S^2]$ IV $\{\tau_1-c_2-c_3\}$; $\pm \bar{a}:\bar{u}, v_2:i, S^1$

(Thus $\tau\bar{u}min$, $\tau\bar{u}\chi i\delta$, etc.)

2. (Precedes 21 and 24)

$[S^2]$ IX $\{\tau-c_2-c_3\}$; $\pm \bar{t}:\bar{u}, v_2:i, S^1$

(Cf. $\tau\bar{u}minn$, $\tau\bar{u}birr$, etc.)

3. Optional (Precedes 23 and 24)
 $[S^2]$ X $\{\tau_1 - c_2 - c_3\}$; $\pm v_1 : u, v_2 : \bar{u}, v_3 : i, S^1$
(Thus $\lambda st\bar{u}min$, $\lambda st\bar{u}mir$, etc.)
4. (Precedes 22 and 24)
 $[S^2]$ XI $\{\tau_1 - c_2 - c_3\}$; $\pm \bar{v} : \bar{u}, v_2 : \bar{v}, S^1$
(Cf. $\lambda m\bar{t}nn$, $\lambda b\bar{t}rr$, etc.)
5. (Precedes 23 and 24)
 $[S^2]$ VIII, XII, XIII $\{\tau_1 - c_2 - c_3\}$; $\pm \bar{v} : \bar{u}, v_2 : u, v_3 : i, S^1$
(Thus $\lambda tumin$, $\lambda muwmin$, $\lambda muwwin$, etc.)
6. Optional (Precedes 24)
 $[S^2]$ $\{c_1 - c_2 - \tau_3\}$; $\pm v_1 : u, v_2 : i, c_3 : y, S^1$
(Thus $quriy$, $lujiy$, $budiy$, etc.)
7. Optional (Precedes 19 and 24)
 $[S^2]$ III $\{c_1 - c_2 - c_2\}$; $Con, \pm v_1 : \bar{u}, S^1$
(Cf. $m\bar{u}dd$, $h\bar{u}jj$, etc.)
8. Optional (Precedes 9, 20 and 24)
 $[S^2]$ VI $\{c_1 - c_2 - c_2\}$; $\pm v_1 : u, v_2 : \bar{u}, v_3 : i, S^1$
(Cf. $tur\bar{u}did$, $tum\bar{u}did$, etc.)
9. (Precedes 20 and 24)
 $[S^2]$ VI $\{c_1 - c_2 - c_2\}$; $Con, \pm v_1 : u, v_2 : \bar{u}, S^1$
(Cf. $tur\bar{u}dd$, $tum\bar{u}dd$, etc.)

10. (Precedes 23 and 24)

$[S^2]$ VII, VIII $\{c_1 - c_2 - c_2\}$;

Con, $\pm v_1' : u, S^1$

(Thus ʔunrudd , ʔumtudd , etc.)

11. (Precedes 24)

$[S^2]$ $\{c_1 - c_2 - c_2\}$;

$\pm v : u, S^1$

(Thus rudd , mudd , mull , etc.)

12. (Precedes 23 and 24)

$[S^2]$ IV $\{w_1(y) - c_2 - c_3\}$;

$\pm v_1 c_1 : \bar{u}, v_2 : i, S^1$

(Cf. ʔūjid , ʔūsir , etc.)

13. (Precedes 23 and 24)

$[S^2]$ X $\{w_1(y) - c_2 - c_3\}$;

$\pm v_1 : u, v_2' c_1 : \bar{u}, v_3 : i, S^1$

(Cf. ʔustūjid , ʔustūsir , etc.)

14. Optional (Precedes 15, 17, 23 and 24)

$[S^2]$ VII, VIII $\{c_1 - w_2(y) - c_3\}$;

$\pm v_1 : i, \bar{a} : \bar{t}, S^1$

(Cf. ʔinqīd , ʔixtīr , etc.)

15. (Precedes 17, 23 and 24)

$[S^2]$ IV, VII, VIII $\{c_1 - w_2(y) - c_3\}$;

$\pm v_1 : u, \bar{a} : \bar{t}, S^1$

(Cf. ʔuqīm , ʔunqīd , ʔuxtīr , ʔubīʔ , ʔubtīʔ , etc.)

16. (Precedes 17, 23 and 24)
 $[S^2]$ $\times \{c_1 - w_2(y) - c_3\};$ $\pm v_1' : u, \bar{a} : \bar{t}, S^1$
 (Cf. $\text{ḡustuq}\bar{m}$, $\text{ḡustu}\chi\bar{r}$, etc.)
17. (Precedes 24)
 $[S^2]$ $\{c_1 - w_2(y) - c_3\};$ $\pm \bar{a} : \bar{t}, S^1$
 (Thus $q\bar{l}$, $t\bar{l}$, $n\bar{m}$, $\chi\bar{f}$, $b\bar{l}\text{f}$, etc.)
18. (Precedes 24)
 $[S^2]$ $\{c_1 - c_2 - w_3\};$ $\pm v_1 : u, v_2 : i, c_3 : y, S^1$
 (Thus ḡuziy , $\text{du}\text{f}\text{iy}$, rujiy , etc.)
19. (Precedes 24)
 $[S^2]$ III; $\pm v_1 : \bar{u}, v_2 : i, S^1$
 (Cf. $k\bar{u}t\bar{i}b$, $s\bar{u}\text{?}i\bar{l}$, $r\bar{u}d\bar{i}d$, $b\bar{u}y\text{f}$, $s\bar{u}r\text{f}$, $w\bar{u}\theta i\bar{q}$, $r\bar{u}m\text{iy}$, etc.)
20. (Precedes 24)
 $[S^2]$ VI; $\pm v_1 : u, v_2 : \bar{u}, v_3 : i, S^1$
 (Thus $tuk\bar{u}t\bar{i}b$, $tu\text{ḡ}u\bar{m}ir$, $tu\text{ḡ}u\bar{m}in$, etc.)
21. (Precedes 24)
 $[S^2]$ IX; $\pm v_1' : u, S^1$
 (Cf. ḡuzwurr , ḡuḥmurr , etc.)

22. (Precedes 24)

$[S^2]$ XI;

$+v_1:u, v_2:\bar{u}, S^1$

(Cf. ʔuḥmūrr , ʔuṣfūrr , etc.)

23. (Precedes 24)

$[S^2]$ V, VII, VIII, X, XII, XIII, XV-XVII; $+v_1'{}_2:u, v_3:i, S^1$

(Cf. tuṣullim , ʔunṣuḡil , ʔuktutib , ʔustufhim , ʔuxṣuwṣin , ʔujluwwiz , tuduḥrij , ʔuḥrunjim , ʔuqṣuṣirr , etc.)

24. $[S^2]$

$+v_1:u, v_2:i, S^1$

(Cf. kutib , fuhim , ḡurib , kuttib , ʔuṣlim , ʔukil , suṣil , quri? , wuṣid , ruḡiy , suṣiy , wuḡiṣ , ruddid , ʔuṡṡir , ʔuriy , etc.)

6.2.1.3 The Tertiary Stems (S^3)

The tertiary stems are derivable from the secondary stems, in order to link them with the following 'Intermediate' stems, and to function simultaneously as the basic form for the dichotomy of voice in the 'Imperfective'. In other words, the function of the 'Tertiary stems' is mainly to keep the succession of the derivational processes among the various types of stems, otherwise it serves none of the 'exclusively verbal' morphosyntactic categories. The required rules for this type of stems may read as follows, with the concept of 'base-form' being used in determining the 'Limitation component' of the rules (12, 13, 14, 15, 17 and 18):

1. Optional (Precedes 5, 23 and 29)

$[S^3]$ III $\{c_1-c_2-c_2\}$; $\pm v_1:\bar{a}, \text{Con}, S^2$

(Thus $r\bar{a}dd$, $m\bar{a}dd$, $h\bar{a}dd$, etc.)

2. (Precedes 5, 24 and 29)

$[S^3]$ IV $\{c_1-c_2-c_2\}$; $-u, S^2$

(Cf. $jidd$, $\{izz$, $himm$, etc.)

3. Optional (Precedes 4, 5, 25 and 29)

$[S^3]$ VI $\{c_1-c_2-c_2\}$; $\pm v_1:a, v_2:\bar{a}, \text{Con}, S^2$

(Cf. $taw\bar{a}dd$, $tam\bar{a}dd$, $tab\bar{a}rr$, etc.)

4. (Precedes 5, 25 and 29)

$[S^3]$ VI $\{c_1-c_2-c_2\}$; $\pm v_1'{}_3:a, v_2:\bar{a}, S^2$

(Cf. $tar\bar{a}dad$, $tam\bar{a}dad$, $taw\bar{a}dad$, etc.)

5. (Precedes 22 and 29)

$[S^3]$ $\{c_1-c_2-c_2\}$; $, S^2$

(Thus $rudd$, $mudd$, etc.)

6. Optional (Precedes 23, 24 and 29)

$[S^3]$ III $\{?_1-c_2-c_3\}$; $\pm c_1:w, v_1:\bar{a}, S^2$

(Cf. $w\bar{a}xi\ddot{o}$, $w\bar{a}nis$, $w\bar{a}lif$, etc.)

7. (Precedes 24 and 29)
 $[S^3]$ IV $\{\text{?}_1 - c_2 - c_3\}$; $-v_1, S^2$
 (Cf. ?min , ?eir , ?lim , ?tiy , etc.)
8. (Precedes 29)
 $[S^3]$ VIII, IX, XII, XIII $\{\text{?}_1 - c_2 - c_3\}$; $-v_1, \text{?}v_2 : a, S^2$
 (Cf. ?tamin , ?mann , ?mawmin , ?mawwin , etc.)
9. Optional (Precedes 29)
 $[S^3]$ X $\{\text{?}_1 - c_2 - c_3\}$; $-\text{?u}, \text{?}c_1'v_2 : \bar{a}, S^2$
 (Cf. Stāmin , stānis , etc.)
10. (Precedes 26 and 29)
 $[S^3]$ XI $\{\text{?}_1 - c_2 - c_3\}$; $-v_1, \text{?}v_2 : \bar{a}, S^2$
 (Cf. ?mānn , ?šārr , etc.)
11. (Precedes 12, 13, 14, 15, 24 and 29)
 $[S^3]$ IV $\{w_1(y) - c_2 - c_3\}$; $-\text{?}, S^2$
 (Cf. $\bar{u}j\text{id}$, $\bar{u}sir$, $\bar{u}jil$, etc.)
12. (Precedes 21 and 29)
 $[S^3]$ $\{w_1ac_2ac_3\}$; $-c_1'v_1, \text{?}v_2 : a, S^2$
 (Thus ḍaḥ , etc.)

13. (Precedes 22 and 29)

$$[S^3] \quad \{w_1uc_2uc_3\};$$

$$-v_1, +v_2:u, S^2$$

(Thus wjuh, etc.)

14. Optional (Precedes 15, 22 and 29)

$$[S^3] \quad \left\{ \begin{array}{l} y_1ac_2ic_3 \\ y_1ic_2ac_3 \end{array} \right\};$$

$$-v_1, +v_2:lex, S^2$$

(Thus ysir, ysar, etc.)

15. (Precedes 22 and 29)

$$[S^3] \quad \left\{ \begin{array}{l} w_1a(i)c_2ic_3 \\ y_1ac_2ic_3 \\ y_1ic_2ac_3 \end{array} \right\};$$

$$-c_1'v_1, S^2$$

(Cf. fid, qiy, θiq, sir, sar, etc.)

16. (Precedes 19, 22 and 29)

$$[S^3] \quad \text{VII, VIII } \{c_1-w_2(y)-c_3\};$$

$$-\eta u, +v_2:\bar{a}, S^2$$

(Cf. nqād, qtād, nbāf, btāf, etc.)

17. (Precedes 19, 22 and 29)

$$[S^3] \quad \{c_1iw_2a(u)c_3\};$$

$$+\bar{t}:\bar{a}, S^2$$

(Cf. xaf, nām, etc.)

18. (Precedes 19, 22 and 29)

$$[S^3] \quad \{c_1a(u)w_2uc_3\};$$

$$+\bar{t}:\bar{u}, S^2$$

(Thus qūl, tūl, etc.)

19. (Precedes 22 and 29)

$[S^3]$ $\{c_1 - y_2 - c_3\};$ $,S^2$

(Thus $b\bar{l}\dot{\imath}$, $m\bar{l}1$, etc.)

20. (Precedes 22 and 29)

$[S^3]$ $\{ra\dot{?}ay\};$ $-v_1'c_2, +v_2:a,S^2$

(Thus ray .)

21. (Precedes 22 and 29)

$[S^3]$ $\{c_1 - c_2 - w_3\};$ $-v_1, +v_2:u, c_3:w, S^2$

(Cf. $\dot{g}zuw$, $sruw$, etc.)

22. (Precedes 29)

$[S^3]$ $I;$ $-v_1, +v_2:lex, S^2$

(Cf. $ktub$, $sru\dot{f}$, $frah$, $flah$, $\dot{d}rib$, $\dot{h}sib$, $\dot{?}kul$, $s\dot{?}al$, $gra\dot{?}$, $rmiy$, $r\dot{d}ay$, $s\dot{f}ay$, $yni\dot{f}$, $wjal$, $\dot{t}wiy$, etc.)

23. (Precedes 29)

$[S^3]$ $III;$ $+v_1:\bar{a}, S^2$

(Cf. $k\bar{a}tib$, $\dot{?}a\chi i\ddot{o}$, $\dot{?}a\dot{n}is$, $w\bar{a}did$, $w\bar{a}di\dot{f}$, $s\bar{a}\dot{?}il$, $r\bar{a}miy$, etc.)

24. (Precedes 29)

$[S^3]$ $IV;$ $-u, S^2$

(Cf. $ktib$, $q\bar{t}m$, riy , $\dot{g}ziy$, etc.)

25. (Precedes 29)

$[S^3]$ VI; $+v_1'{}_3:a, v_2:\bar{a}, S^2$

(Cf. taṣālam, taḏāhar, taḥāmar, tawādad, tawāṣal, tarāmay, etc.)

26. (Precedes 29)

$[S^3]$ XI; $-u, +v_2:\bar{a}, S^2$

(Cf. ṣfārr, ḫdārr, byādd, etc.)

27. (Precedes 29)

$[S^3]$ II, XIV; $+v_1:a, S^2$

(Cf. kattib, raddid, ḥaəəir, daḥrij, zalzil, etc.)

28. (Precedes 29)

$[S^3]$ V, XV; $+v_1'{}_2'{}_3:a, S^2$

(Cf. taṣallam, taraddad, tadaḥraj, etc.)

29. $[S^3]$ $-u, +v_2:a, S^2$

(Cf. nṭaliq, qtarib, ḥmarr, stafhim, ṣṣawṣib, jlawwiz, ḥranjim, qṣaṣirr, nsadd, rtadd, ttaṣil, ttaḫiḏ, staqīm, etc.)

6.2.1.4 The Intermediate Stems (I)

The 'Intermediate Stems' are the stems for the 'Imperative' as well as for its 'energetic' form. In this grammar, they derivationally mediate in terms of sequentiality between the 'Transitory' stems (i.e. the Imperfectives) and what we have called 'their basic forms' (i.e. the tertiary stems). They, of course,

share the same operational diversity as the preceding stem-groups.

The rules 6 and 16 are conditioned to be optional only when the word concerned is not initial in the sentence construction, otherwise they are compulsory. According to the operational variations and the options, the rules may be sequentially ordered as follows; with the 'base-form' concept being used in the rules (1, 7, 8, 13, 14 and 18):

1. Optional (Precedes 4 and 21)

[I] $\{c_1ac_2uc_2\};$ $\text{?u+}, \text{exp}, S^3$

(Cf. ?umdud, ?uśdud, ?umrur, ?umnun, etc.)

2. Optional (Precedes 19 and 21)

[I] IV $\{c_1-c_2-c_2\};$ $\text{?a+}, \text{Con}, S^3$

(Thus ?amidd, ?aśidd, ?amirr, ?ajidd, etc.)

3. Optional (Precedes 21)

[I] VIII,X $\{c_1-c_2-c_2\};$ $\text{?i+}, \text{Con}, S^3$

(Cf. ?imtann, ?ištazz, ?irtadd, ?istaridd, ?istamidd, ?istaśidd, etc.)

4. (Precedes 21)

[I] $\{c_1-c_2-c_2\};$ $, S^3$

(Thus rudd, şudd, jidd, birr, řadd, ōall, etc.)

5. (Precedes 21)

[I] $\left\{ \begin{array}{l} \text{?aka1} \\ \text{?aχaō} \end{array} \right\}$ $-c_1, S^3$

(Thus χuō, kul.)

6. Optional (Precedes 7, 18 and 21)
 [I] {ʔamar}; $-c_1, S^3$
 (Thus mur.)
7. (Precedes 18 and 21)
 [I] {ʔ₁ac₂uc₃}; $+c_1: \overline{\text{u}}, S^3$
 (Cf. $\overline{\text{u}}$ mur, $\overline{\text{u}}$ ʃul, $\overline{\text{u}}$ ful, etc.)
8. (Precedes 21)
 [I] {ʔ₁-c₂a(i)c₃}; $+c_1: \overline{\text{u}}, S^3$
 (Cf. $\overline{\text{u}}$ ðan, $\overline{\text{u}}$ man, $\overline{\text{u}}$ riz, etc.)
9. (Precedes 19 and 21)
 [I] IV {ʔ₁-c₂-c₃}; $+c_1: \overline{\text{a}}, S^3$
 (Cf. $\overline{\text{a}}$ min, $\overline{\text{a}}$ χið, $\overline{\text{a}}$ nis, etc.)
10. Optional (Precedes 21)
 [I] X {ʔ₁-c₂-c₃}; $+v_1'c_1: \overline{\text{a}}, \text{ʔi}+, S^3$
 (Cf. ʔ istāmin, ʔ istānis, ʔ istāðin, etc.)
- 11 (Precedes 21)
 [I] VIII, IX, XI-XIII {ʔ₁-c₂-c₃}; $+c_1: \overline{\text{u}}, S^3$
 (Cf. $\overline{\text{u}}$ tamin, $\overline{\text{u}}$ mann, $\overline{\text{u}}$ mānn, $\overline{\text{u}}$ mawman, $\overline{\text{u}}$ mawwan, etc.)

12. (Precedes 19 and 21)

[I] IV $\{w_1(y) - c_2 - c_3\}; \quad +\bar{u}:c_1, \text{?a+}, S^3$

(Cf. ?awfid, ?awjid, ?aysir, etc.)

13. Optional (Precedes 18 and 21)

[I] $\{yuc_2uc_3\}; \quad +c_1:\text{?}\bar{u}, S^3$

(Thus ?usur, etc.)

14. Optional (Precedes 21)

[I] $\left\{ \begin{array}{l} y_1ac_2ic_3 \\ y_1ic_2ac_3 \end{array} \right\}; \quad +c_1:\text{?}\bar{u}, S^3$

(Thus ?sir, ?ni?, ?sar, etc.)

15. (Precedes 21)

[I] $\left\{ \begin{array}{l} w_1 - c_2 - c_3 \\ c_1 - w_2(y) - c_3 \end{array} \right\}; \quad , S^3$

(Thus fid, θiq, ɖaf, qiy, qif, qūl, tūl, χāf, nām, bīt, etc.)

16. Optional (Precedes 21)

[I] $\{sa \text{?}al\}; \quad -c_2, S^3$

(Thus sal.)

17. (Precedes 21)

[I] $\{ra \text{?}ay\}; \quad , S^3$

(Thus ray.)

18. (Precedes 21)

[I] $\{c_1 a(u) c_2 u c_3\};$ $\text{?u+}, S^3$

(Thus ?uktub, ?uḡzuw, ?usruw, ?uwjuh, ?uysur, etc.)

19. (Precedes 21)

[I] IV; $\text{?a+}, S^3$

(Cf. ?ahkim, ?amdid, ?amrir, ?aqlil, ?aqīm, ?abīʿ, ?aḡziy, etc.)

20. (Precedes 21)

[I] II, III, V, VI, XIV, XV; $, S^3$

(Cf. fahhim, jālis, taʿallam, tawāḍaʿ, daḥrij, tadaḥraj, etc.)

21. [I] $\text{?i+}, S^3$

(Cf. ?ifraḥ, ?ihbis, ?iqraʿ, ?iysir, ?irmiy, ?irḍay, ?isʿay, ?iwjal, ?iṭwiy, ?inṭaliq, ?iqtarib, ?ibyadd, ?ittašil, ?ittaxið, ?istaqīm, etc.)

6.2.1.5 The Transitory Stems (T)

These are the stems for the 'Imperfective' formations.

They are, in a sense, transitory to the complete structure of a verbal word-form, which usually requires the qualifying pronominal affixation.

That is why we call them 'transitory'. And to distinguish between their Active and Passive formations, we simply gave them the symbols (T) and (T') respectively. The T stem-rules read as follows, with the base-form concept used in the rules (14, 18 and 21):

1. Optional (Precedes 22 and 24)
 [T] III {c₁-c₂-c₂}; u+,Con,I
 (Cf. uḥādd, uwādd, ulājj, etc.)

2. Optional (Precedes 23 and 24)
 [T] VI {c₁-c₂-c₂}; a+,Con,I
 (Cf. atarādd, atamādd, atawādd, etc.)

3. (Precedes 24)
 [T] {c₁-c₂-c₂}; a+,I
 (Cf. arudd, amudd, awadd, ajidd, etc.)

4. (Precedes 24)
 [T] {raʔay}; a+,I
 (Thus aray.)

5. (Precedes 24)
 [T] {saʔal}; a+,₁c₂,I
 (Thus asʔal.)

6. (Precedes 24)
 [T] { ʔamar }
 { ʔakal }
 { ʔaxaḏ } aʔ+,I
 (Thus aʔmur, aʔkul, aʔxuḏ.)

7. Optional (Precedes 22 and 24)
 [T] II { $\text{?}_1\text{-c}_2\text{-c}_3$ }; $u^+, \text{?}_1^+ : w, I$
 (Cf. uwa $\theta\theta$ ir, uwallif, uwabbir, etc.)
8. Optional (Precedes 9, 21 and 24)
 [T] IV { $\text{?}_1\text{-c}_2\text{-c}_3$ }; $\text{?}_1^+ \bar{a} : \bar{u}, I$
 (Cf. \bar{u} min, $\bar{u}\chi i\check{\theta}$, \bar{u} lim, \bar{u} nis, $\bar{u}\theta$ ir, etc.)
9. (Precedes 21 and 24)
 [T] IV { $\text{?}_1\text{-c}_2\text{-c}_3$ }; $\text{?}_1^+ \bar{a} : u \text{?}, I$
 (Cf. u ? min, u $\text{?}\chi i\check{\theta}$, u ? lim, u ? nis, etc.)
10. (Precedes 23 and 24)
 [T] V, VI { $\text{?}_1\text{-c}_2\text{-c}_3$ }; a^+, I
 (Cf. ata ? ammar, ata ? \bar{a} mar, ata ? allaf, ata ? \bar{a} laf, etc.)
11. Optional (Precedes 24)
 [T] X { $\text{?}_1\text{-c}_2\text{-c}_3$ }; $\text{?}_1^+ \bar{i} : a, v_2' c_1 : \bar{a}, I$
 (Cf. ast \bar{a} min, ast $\bar{a}\check{\theta}$ in, ast $\bar{a}\theta$ ir, etc.)
12. Optional (Precedes 13 and 24)
 [T] VIII, IX, XI-XIII { $\text{?}_1\text{-c}_2\text{-c}_3$ }; $\text{?}_1^+ \bar{u} : \bar{a}, I$
 (Cf. \bar{a} tamin, \bar{a} mann, \bar{a} m \bar{a} nn, \bar{a} mawmin, \bar{a} mawwin, etc.)

13. (Precedes 24)

[T] VIII, IX, XI-XIII $\{\text{?}_1 - c_2 - c_3\}$; $\pm \text{?} : a?, I$

(Cf. a?tamin, a?mann, a?männ, a?mawmin, a?mawwin, etc.)

14. Optional (Precedes 18 and 24)

[T] {yasir}; $\pm \text{?} : a, -c_1, I$

(Thus asir.)

15. Optional (Precedes 18 and 24)

[T] {ya?is}; $\pm \text{?} : a, v_2 : i, -c_1, I$

(Thus a?is.)

16. Optional (Precedes 18 and 24)

[T] (wajil); $\pm \text{?} : \bar{a}, -c_1, I$

(Thus ājal.)

17. (Precedes 18 and 24)

[T] $\left\{ \begin{array}{l} w_1 a c_2 i(a) c_3 \\ w_1 i c_2 i c_3 \end{array} \right\} \quad a+, I$

(Cf. a?id, aqiy, a?iy, aḍa?, aqa?, a?iq, etc.)

18. (Precedes 24)

[T] $\{w_1(y) - c_2 - c_3\}$; $-?a, \pm c_1 : \bar{u}, I$

(Thus ūjid, ū?id, ūsir, etc.)

19. (Precedes 24)

[T] $\{c_1 - w_2(y) - c_3\};$ $a+, I$

(Cf. aqūl, aṭūl, aḫāf, anām, abīf, etc.)

20. (Precedes 24)

[T] $\{c_1 a(u) c_2 u c_3\};$ $+ \text{?}u:a, I$

(Cf. aktub, awjuh, aysur, aḡzuw, asruw, etc.)

21. (Precedes 24)

[T] IV; $+ \text{?}a:u, I$

(Cf. usmīf, uflim, umidd, uḫīf, uqīm, unīm, ubīf, uriy, uḡziy, etc.)

22. (Precedes 24)

[T] II, III, XIV; $u+, I$

(Cf. ukattib, uraddid, uʔammin, uwaθθiq, ukātib, uwādid, uʔānis, uwāṣil, udaḥrij, etc.)

23. (Precedes 24)

[T] V, VI, XV; $a+, I$

(Cf. ataʔallam, ataraddad, ataʔālam, atawādad, atadaḥraj, etc.)

24. [T] $+ \text{?}i:a, I$

(Cf. afraḥ, aḥbis, aqraʔ, aysir, armiy, arḍay, asʔay, aynīf, awjal, aṭwiy, anṭaliq, aqtarib, abyadḍ, attaṣil, attaxiḍ, astaqīm, aʔṣawṣib, ajlawwiz, aḥranjim, aqsaʔirr, etc.)

6.2.1.6 The Transitory Stems (T')

These are the stems for the 'Passive Imperfective' formations. The symbol (T') distinguishes them from the preceding 'Active Imperfective' stems which are symbolized by (T). They will sequentially read as follows, with the base-form concept used in the rules (11, 12, 16, 17 and 19):

1. (Precedes 20 and 22)

[T'] II, IV {c₁-c₂-c₂}; +v₂:a,T

(Cf. uraddad, uradd, uṣaddad, uṣadd, etc.)

2. Optional (Precedes 3, 20 and 22)

[T'] III {c₁-c₂-c₂}; +v₂:a,exp,T

(Thus urādada, uwādada, ulājaj, etc.)

3. (Precedes 20 and 22)

[T'] III {c₁-c₂-c₂}; ,T

(Thus urādd, uwādd, ulājj, etc.)

4. Optional (Precedes 5, 21 and 22)

[T'] VI {c₁-c₂-c₂}; +a:u,exp,T

(Thus utarādada, utawādada, utaḥādada, etc.)

5. (Precedes 21 and 22)

[T'] V-VIII {c₁-c₂-c₂}; +a:u,T

(Cf. utawaddad, utaḥādd, unbatt, urtadd, etc.)

6. Optional (Precedes 20 and 22)
 [T'] II { ?₁-c₂-c₃ }; +c₁:w, v₂:a, T
 (Thus uwaθθar, uwamman, uwallaf, etc.)
7. Optional (Precedes 20 and 22)
 [T'] IV { ?₁-c₂-c₃ }; +u?:ū, v₂:a, T
 (ūman, uθar, ūnas, etc.)
8. Optional (Precedes 22)
 [T'] VIII, XII, XIII { ?₁-c₂-c₃ }; +a?:ū, v₂:a, T
 (Cf. ūtaman, ūtamar, ūtazar, etc.)
9. Optional (Precedes 10, 21 and 22)
 [T'] IX, XI { ?₁-c₂-c₃ }; +a?:u, T
 (Cf. ūmann, ūmānn, ūlamm, ūlāmm, etc.)
10. (Precedes 21 and 22)
 [T'] IX, XI { ?₁-c₂-c₃ }; +a:u, T
 (Cf. uʔmann, uʔmānn, uʔlamm, uʔlāmm, etc.)
11. (Precedes 19 and 22)
 [T'] {w₁ac₂ac₃}; +a:ū, T
 (Thus ūdaʔ.)

12. (Precedes 19 and 22)
 $[T'] \quad \{w_1 a(i) c_2 i c_3\}; \quad \pm a:\bar{u}, v_2:a, T$
 (Thus $\bar{u}\bar{\imath}ad$, $\bar{u}qay$, $\bar{u}\theta aq$, $\bar{u}lad$, etc.)
13. (Precedes 20 and 22)
 $[T'] \quad IV \{c_1 - w_2(y) - c_3\}; \quad \pm \bar{t}:\bar{a}, T$
 (Thus $uq\bar{a}m$, $u\bar{\imath}al$, $uj\bar{a}z$, $uz\bar{a}n$, $ub\bar{a}h$, $u\bar{\imath}a\bar{s}$, etc.)
14. (Precedes 22)
 $[T'] \quad VII, VIII \{c_1 - w_2(y) - c_3\}; \quad \pm a:u, T$
 (Cf. $unq\bar{a}d$, $ubt\bar{a}\bar{\imath}$, $unb\bar{a}\bar{\imath}$, $uqt\bar{a}d$, etc.)
15. (Precedes 22)
 $[T'] \quad X \{c_1 - w_2(y) - c_3\}; \quad \pm a:u, v_2:\bar{a}, T$
 (Cf. $ustaq\bar{a}m$, $ustaj\bar{a}r$, $usta\bar{\imath}ab$, etc.)
16. (Precedes 22)
 $[T'] \quad \{c_1 ay_2 i c_3\}; \quad \pm a:u, v_2:\bar{a}, T$
 (Thus $ub\bar{a}\bar{\imath}$, $uz\bar{a}d$, $us\bar{a}r$, $uk\bar{a}l$, etc.)
17. (Precedes 22)
 $[T'] \quad \{c_1 a(u) w_2 u c_3\}; \quad \pm a:u, v_2:\bar{a}, T$
 (Thus $uq\bar{a}l$, $u\bar{s}am$, $u\bar{\imath}al$, etc.)

18. (Precedes 22)

[T'] $\{c_1 - c_2 - w_3\}$; $\pm a:u, v_2:a, c_3:y, T$

(Thus uġzay, usray, etc.)

19. (Precedes 22)

[T'] $\{c_1 a(i) c_2 a c_3\}$; $\pm a:u, T$

(Cf. ubhar, usmaʃ, usʔal, uqraʔ, uχāf, urḍay, usʃay, uray, uwjal, etc.)

20. (Precedes 22)

[T'] II-IV, XIV; $\pm v_2:a, T$

(Cf. ukattab, ukātab, uktab, udaḥraj, uwjad, uysar, uʔχað, uʔmar, uray, uʔaθθar, uġzay, etc.)

21. (Precedes 22)

[T'] V, VI, IX, XI, XV; $\pm a:u, T$

(Cf. utaʃallam, utaðāhar, uḥmarr, uḥmārr, utadaḥraj, etc.)

22. [T'] $\pm a:u, v_2:a, T$

(Cf. ufham, usmaʃ, uḥbas, uktab, uʔmar, uqraʔ, uysar, urmay, urḍay, úsʃay, uwjal, uṭway, unṭalaq, uqtarab, ubyadḍ, uttaʃal, uttaχað, ustaqām, uʃśawśab, ujlawwaz, uḥranjam, uqśaʃarr, etc.)

6.2.2 THE V-RULES

The V-Rules are concerned with the discrete '(V)erbal Formations' of the CA verb. Unlike the Stem-Rules, they depend on paradigmatic morphophonemic operations in order to produce the ultimate constructions of the various verbal forms.

A solution that could render all the verbal formations in one list of consecutive [V] Rules - which is not an obligation in terms of the theory - is possible. Yet such a solution would not only blur the clarity of the Rules and lead to some confusion, but would furthermore be mostly at the expense of Rule-Economy. For this reason it has been thought better to divide the [V] Rules into four major sub-titles: (1) The Perfectives (Active/Passive), (2) The Passive Imperfectives, (3) Moods of the Imperfective, and (4) 'The Imperatives and Energetic Imperatives'.

It would have been possible to order these four sections in a succession conformable to that of their stems, but the fact that the 'Imperative' is generally included in the verbal moods made it more convenient to place it last. These four divisions are to be kept in mind as we approach the [V] Rules, seeking the appropriate one.

6.2.2.1 The Active and Passive Perfectives

In this division of Rule-groups 'Perfectives', I will

be using the cover symbols (2 , 3̣) as essential means of economy in order to reduce the number of verbal-formation Rules by over fifty per cent. 2: for the 1st and 2nd person pronominal suffixes, 3̣: for the 3rd person pronominal suffixes. This practice is facilitated by the simple fact that the personal pronouns have already been presented, in their primary forms, in the previous discussions of Chapter V. Also, in this division of Rules, the cover symbol [S] will represent both the primary stem [S¹] and the secondary stem [S²], i.e. a Rule with the 'formation' Index-symbol [S] applies equally to active or passive stems, to generate either of the 'voice' forms as required. Accordingly, Rules of the Perfectives should read as follows, with the concept of base-form being used in the Rules (16-20 and 31-34):

1. (Precedes 3, 6, 7, 8, 10, 52 and 53)

[^V pf,a,3,p1,f] III,IV,VI-VIII,X {c₁-c₂-c₂}; exp,S¹+3̣

(Thus wādad-na, ʔazlāl-na, tašādad-na, ʔinʕadad-na, ʔihtamam-na, ʔistardad-na, etc.)

2. (Precedes 4, 6, 7, 9, 11, 52 and 53)

[^V pf,p,3,p1,f] III,IV,VI-VIII,X {c₁-c₂-c₂}; exp,₁i,S²+3̣ ^{p(1 i)}

(Thus wūdīd-na, ʔumdid-na, tušūdīd-na, ʔuhtumum-na, ʔusturdid-na, etc.)

3. (Precedes 7, 10, 52 and 53)

[^V pf,a,3,p1,f] {c₁-c₂-c₂}; exp,S¹+3̣

(Thus radad-na, šadad-na, malal-na, etc.)

4. (Precedes 7, 14, 52 and 53)

$[^V_{pf,p,3,p1,f}] \quad \{c_1-c_2-c_2\}; \quad \text{exp}, \underline{1}, S^2+\tilde{p}$

(Thus rudid-na, şudid-na, mulil-na, etc.)

5. Optional (Precedes 6, 7, 8, 10, 52 and 53)

$[^V_{pf,a,3(f)}] \quad \text{III,VI} \{c_1-c_2-c_2\}; \quad \text{exp}, S^1+\tilde{p}$

(Cf. lājaj-a, ḥājaj-at, tawādad-ā, tamādad-atā, taśādad-ū, etc.)

6. (Precedes 7, 8, 9, 10, 11, 52 and 53)

$[^V_{pf,3(f)}] \quad \text{III,IV,VI-VIII,X} \{c_1-c_2-c_2\}; \quad ,S+\tilde{p}$

(Cf. lājaj-a, ʔazall-at, tawādd-ā, ʔinfadd-atā, ʔistaradd-ū; ḥūjj-a, ʔumirr-at, turūdd-ā, ʔuftudd-atā, ʔustumidd-ū, etc.)

7. (Precedes 10, 11, 52 and 53)

$[^V_{pf,3(f)}] \quad \{c_1-c_2-c_2\}; \quad ,S+\tilde{p}$

(Cf. radd-a, şadd-at, habb-ā, mall-atā, wadd-ū; rudd-a, şudd-at, mull-ā, mudd-atā, zumm-ū, etc.)

8. (Precedes 10 and 53)

$[^V_{pf,a}] \quad \text{III,IV,VI-VIII,X} \{c_1-c_2-c_2\}; \quad \text{exp}, S^1+2$

(Cf. wādad-tu, ʔazlal-nā, taśādad-ta, taśāzaz-ti, ʔinfadad-tumā, ʔihtamam-tum, ʔistardad-tunna, etc.)

9. (Precedes 11 and 53)

$[^V_{pf,p}] \quad \text{III,IV,VI-VIII,X} \{c_1-c_2-c_2\}; \quad \text{exp}, \underline{1}, S^2+2$

(Cf. ʔudid-tu, ʔuʔziz-na, tuśūdid-ta, tuśūdid-ti, ʔuḥtujij-tumā, ʔustumdid-tum, ʔustumdid-tunna, etc.)

10. (Precedes 53)

$[^V_{pf,a}]$ $\{c_1-c_2-c_2\};$ exp, S^1+2

(Cf. radad-tu, madad-nā, wadad-ti, şadad-ti, malal-tumā, lajaj-tum, farar-tunna, etc.)

11. (Precedes 53)

$[^V_{pf,p}]$ $\{c_1-c_2-c_2\};$ $\text{exp}, \text{ }_1i, S^2+2$

(Cf. rudid-tu, şudid-nā, mudid-tumā, şudid-tum, řudid-tunna, etc.)

12. Optional (Precedes 14, 15, 52 and 53)

$[^V_{pf,p,3,p1,f}]$ $\{c_1-c_2-?_3\};$ $\text{ }_1i?:\bar{t}, S^2+\bar{p}$

(Thus bud \bar{t} -na, ruz \bar{t} -na, etc.)

13. (Precedes 14, 15, 52 and 53)

$[^V_{pf,p,3,p1}]$ $\{c_1-c_2-?_3\};$ $, S^2+\bar{p}$

(Thus bidi? \bar{u} , ruzi? \bar{u} , etc.)

14. Optional (Precedes 15, 52 and 53)

$[^V_{pf,p,3(f)}]$ $\{c_1-c_2-?_3\};$ $\text{ }_1?:y, S^2+\bar{p}$

(Thus budiy-a, budiy-at, ruziy-a, ruziy-at, budiy-ā, ruziy-atā, etc.)

15. Optional (Precedes 53)

$[^V_{pf,p}]$ $\{c_1-c_2-?_3\};$ $\text{ }_1i?:\bar{t}, S^2+2$

(Thus bud \bar{t} -tu, ruz \bar{t} -nā, bud \bar{t} -ta, ruz \bar{t} -ti, bud \bar{t} -tumā, ruz \bar{t} -tum, bud \bar{t} -tunna, etc.)

16. (Precedes 18, 19, 23, 26, 29, 52 and 53)

$[^V_{pf,a,3,p1,f}] \quad \{c_1 a(u) w_2 u c_3\}; \quad +\bar{a}:u, S^1 + \bar{p}$

(Thus qum-na, şum-na, tul-na, etc.)

17. (Precedes 18, 20, 24, 26, 30, 52 and 53)

$[^V_{pf,p,3,p1,f}] \quad \{c_1 a(u) w_2 u c_3\}; \quad \text{Cur } \bar{t}, S^2 + \bar{p}$

(Thus sim-na, şim-na, til-na, etc.)

18. (Precedes 19, 20, 26, 29, 30, 52 and 53)

$[^V_{pf,3(f)}] \quad \{c_1 a(u) w_2 u c_3\}; \quad , S + \bar{p}$

(Cf. qām-a, sām-a, şām-at, t̄āf-atā, t̄āl-ā, qāl-ū; şīm-a, sīm-atā, t̄l-ū, etc.)

19. (Precedes 29 and 53)

$[^V_{pf,a}] \quad \{c_1 a(u) w_2 u c_3\}; \quad +\bar{a}:u, S^1 + \bar{p}$

(Cf. qum-tu, şum-tu, tuf-nā, şum-ta, qul-ti, tul-tumā, ūd-tum, jur-tunna, etc.)

20. (Precedes 30 and 53)

$[^V_{pf,p}] \quad \{c_1 a(u) w_2 u c_3\}; \quad \text{Cur } \bar{t}, S^2 + \bar{p}$

(Cf. sim-tu, sim-nā, til-ta, til-tumā, sim-tum, sim-tunna, etc.)

21. (Precedes 23, 25, 26, 27, 29, 52 and 53)

$[^V_{pf,a,3,p1,f}] \quad \text{IV,VII,VIII,X } \{c_1 - w_2(y) - c_3\}; \quad \text{Cur } \bar{a}, S^1 + \bar{p}$

(Cf. ʔaqam-na, ʔibtaʔ-na, ʔinqad-na, ʔistatāb-na, etc.)

22. (Precedes 24, 25, 26, 28, 30, 52 and 53)

[^Vpf,p,3,pl,f] IV,VII,VIII,X {c₁-w₂(y)-c₃}; Cur $\bar{t}, S^2 + \bar{p}$

(Cf. $\lambda uqim-na$, $\lambda u\chi tir-na$, $?inqid-na$, $\lambda ustumil-na$, etc.)

23. (Precedes 26, 29, 52 and 53)

[^Vpf,a,3,pl,f] {c₁-w₂(y)-c₃}; $+ \bar{a}:i, S^1 + \bar{p}$

(Thus $\chi if-na$, $nim-na$, $bi\bar{f}-na$, etc.)

24. (Precedes 26, 30, 52 and 53)

[^Vpf,p,3,pl,f] {c₁-w₂(y)-c₃}; $+ \bar{t}:u, S^2 + \bar{p}$

(Thus $num-na$, $\chi uf-na$, $bu\bar{f}-na$, etc.)

25. (Precedes 26, 27, 28, 29, 30, 52 and 53)

[^Vpf,3(f)] IV,VII,VIII,X {c₁-w₂(y)-c₃}; $, S + \bar{p}$

(Cf. $\lambda aq\bar{a}ma$, $\lambda aq\bar{a}m-at$, $\lambda ibt\bar{a}\bar{f}-a$, $\lambda ibt\bar{a}\bar{f}-at$, $\lambda inq\bar{a}d-\bar{a}$, $\lambda inq\bar{a}d-at\bar{a}$, $\lambda ista\bar{t}ab-\bar{u}$; $\lambda inq\bar{u}d-a$, $\lambda i\chi t\bar{u}r-at$, $\lambda uq\bar{u}m-\bar{a}$, $\lambda u\bar{f}\bar{u}n-at\bar{a}$, $\lambda ustum\bar{u}l-\bar{u}$, etc.)

26. (Precedes 29, 30, 52 and 53)

[^Vpf,3(f)] {c₁-w₂(y)-c₃}; $, S + \bar{p}$

(Cf. $n\bar{a}ma-a$, $h\bar{a}k-at$, $\chi\bar{a}f-\bar{a}$, $n\bar{a}m-at\bar{a}$, $b\bar{a}\bar{f}-\bar{u}$; $n\bar{u}m-a$, $h\bar{u}k-at$, $\chi\bar{u}f-\bar{a}$, $b\bar{u}\bar{f}-at\bar{a}$, $h\bar{u}b-\bar{u}$, etc.)

27. (Precedes 29 and 53)

[^Vpf,a] IV,VII,VIII,X {c₁-w₂(y)-c₃}; Cur $\bar{a}, S^1 + 2$

(Cf. $\lambda aqam-tu$, $\lambda ibt\bar{a}\bar{f}-n\bar{a}$, $\lambda inqad-ta$, $\lambda istamal-ti$, $\lambda in\bar{h}az-tum\bar{a}$, $\lambda ista\bar{t}ab-tum$, $\lambda ista\bar{f}an-tunna$, etc.)

28. (Precedes 30 and 53)

$[^V_{pf,p}]$ IV,VII,VIII,X $\{c_1-w_2(y)-c_3\}$; Cur \bar{t}, S^{2+2}

(Cf. $\lambda ujir-tu$, $\lambda ujir-n\bar{a}$, $\lambda uqim-ta$, $\lambda uqim-ti$, $\text{?i}\chi tir-tum\bar{a}$, ?inqid-tum ; $\lambda ustumil-tunna$, etc.)

29. (Precedes 53)

$[^V_{pf,a}]$ $\{c_1-w_2(y)-c_3\}$; $+\bar{a}:i, S^{1+2}$

(Cf. $bi\text{?}-tu$, $bi\text{?}-n\bar{a}$, $\chi if-ta$, $\chi if-ti$, $nim-tum\bar{a}$, $nim-tum$, $\chi if-tunna$, etc.)

30. (Precedes 53)

$[^V_{pf,p}]$ $\{c_1-w_2(y)-c_3\}$; $+\bar{t}:u, S^{2+2}$

(Cf. $bu\text{?}-tu$, $bu\text{?}-n\bar{a}$, $bu\text{?}-ta$, $num-tum\bar{a}$, $\chi uf-tum$, $\chi uf-tunna$, etc.)

31. (Precedes 43, 46, 52 and 53)

$[^V_{pf,a,3,sg,f}]$ $\{c_1ac_2-w_3(y)\}$; $-c_3, S^{1+t}$

(Thus $da\text{?}a-t$, $sa\text{?}a-t$, $rama-t$, $\text{?}awa-t$, $waqa-t$, $ra\text{?}a-t$, etc.)

32. (Precedes 43, 46, 52 and 53)

$[^V_{pf,a,3,sg}]$ $\{c_1ac_2-w_3(y)\}$; $-v_2'c_3, S^{1+a}$

(Thus $da\text{?}-\bar{a}$, $sa\text{?}-\bar{a}$, $ram-\bar{a}$, $waq-\bar{a}$, $\text{?}aw-\bar{a}$, $ra\text{?}-\bar{a}$, etc.)

33. (Precedes 43, 46, 52 and 53)

$[^V_{pf,a,3,d,f}]$ $\{c_1ac_2-w_3(y)\}$; $-c_3, S^{1+t\bar{a}}$

(Thus $da\text{?}a-t\bar{a}$, $sa\text{?}a-t\bar{a}$, $rama-t\bar{a}$, $waqa-t\bar{a}$, $\text{?}awa-t\bar{a}$, $ra\text{?}a-t\bar{a}$, etc.)

34. (Precedes 40, 43, 46, 52 and 53)

$[^V_{\text{pf},a,3,\text{pl}}] \quad \{c_1ac_2-w_3(y)\}; \quad -c_3, S^1+w$

(Thus daʃa-w, saʃa-w, rama-w, waqa-w, ʔawa-w, raʔa-w, etc.)

35. (Precedes 43, 46, 52 and 53)

$[^V_{\text{pf},a,3,\text{sg},f}] \quad \text{II-VIII,X,XII,XIII} \{c_1-c_2-w_3(y)\}; \quad -c_3, S^1+t$

(Cf. zakka-t, ʔaʃʔa-t, ʔittaqa-t, ʔintaqa-t, ʔistardā-t, etc.)

36. (Precedes 37, 42, 43, 45, 46, 52 and 53)

$[^V_{\text{pf},p,3,\text{pl},f}] \quad \text{II-VIII,X,XII,XIII} \{c_1-c_2-w_3(y)\}; \quad -c_3, \text{pro } V_2, S^2+\bar{p}$

(Cf. zukk̄-na, ʔuʃʔ̄-na, ʔuttuq̄-na, ʔuntuq̄-na, ʔusturḏ̄-na, etc.)

37. (Precedes 43, 46, 52 and 53)

$[^V_{\text{pf},3,\text{pl},f}] \quad \{c_1-c_2-w_3(y)\}; \quad -c_3, \text{pro } V_2, S+\bar{p}$

(Thus sarū-na, baq̄-na, ʁaʃ̄-na, raḏ̄-na; duʃ̄-na, rum̄-na, ruʔ̄-na, ʁuʃ̄-na, wuq̄-na, etc.)

38. (Preceds 40, 42, 43, 45, 46, 52 and 53)

$[^V_{\text{pf},a,3,\text{pl}}] \quad \text{II-VIII,X,XII,XIII} \{c_1-c_2-w_3(y)\}; \quad -c_3, S^1+w$

(Cf. zakka-w, ʔaʃʔa-w, ʔittaqa-w, ʔintaqa-w, ʔistardā-w, etc.)

39. (Precedes 40, 42, 43, 45, 46, 52 and 53)

$[^V_{\text{pf},p,3,\text{pl}}] \quad \text{II-VIII,X,XII,XIII} \{c_1-c_2-w_3(y)\}; \quad -V_2'c_3, S^2+\bar{p}$

(Cf. zukk-ū, ʔuʃʔ-ū, ʔuttuq-ū, ʔuntuq-ū, ʔusturḏ-ū, etc.)

40. (Precedes 43, 46, 52 and 53)

$[^V_{\text{pf},3,\text{pl}}] \quad \{c_1-c_2-w_3(y)\}; \quad -V_2'c_3, S+\bar{p}$

(Thus sar- \bar{u} , baq- \bar{u} , $\chi a\acute{s}$ - \bar{u} , raḍ- \bar{u} ; duḥ- \bar{u} , rum- \bar{u} , $\chi u\acute{s}$ - \bar{u} , wuq- \bar{u} , etc.)

41. (Precedes 43, 46, 52 and 53)

$[^V_{\text{pf},a,3,\text{sg}}] \quad \text{II-VIII,X,XII,XIII} \quad \{c_1-c_2-w_3(y)\}; \quad -V_2'c_3, S^1+\bar{a}$

(Cf. zakk- \bar{a} , ʔaḥṭ - \bar{a} , ʔittaḳ - \bar{a} , ʔintaḳ - \bar{a} , ʔistarḍ - \bar{a} , etc.)

42. (Precedes 43, 45, 46, 52 and 53)

$[^V_{\text{pf},p,3(f)}] \quad \text{II-VIII,X,XII,XIII} \quad \{c_1-c_2-w_3(y)\}; \quad ,S^2+\bar{p}$

(Cf. zukkiy-a, ʔuḥṭiy -at, ʔuḥṭiy - \bar{a} , ʔuntuḳiy -atā, ʔusturḍiy - \bar{a} , etc.)

43. (Precedes 46, 52 and 53)

$[^V_{\text{pf},3(f)}] \quad \{c_1-c_2-w_3(y)\}; \quad ,S+\bar{p}$

(Thus duḥiy-a, rumiy-at, ruḥiy- \bar{a} , $\chi u\acute{s}$ iy- \bar{a} , wuḳiy-atā; saruw-a, baḳiy-at, $\chi a\acute{s}$ iy- \bar{a} , raḍiy-atā, etc.)

44. (Precedes 46, 52 and 53)

$[^V_{\text{pf},a,3,d,f}] \quad \text{II-VIII,X,XII,XIII} \quad \{c_1-c_2-w_3(y)\}; \quad -c_3, S^1+t\bar{a}$

(Cf. zakka-tā, ʔaḥṭa -tā, ʔittaḳa -tā, ʔintaḳa -tā, ʔistarḍa -tā, etc.)

45. (Precedes 46 and 53)

$[^V_{\text{pf},p}] \quad \text{II-VIII,X,XII,XIII} \quad \{c_1-c_2-w_3(y)\}; \quad -c_3, \text{pro } V_2, S^2+2$

(Cf. zukkī-tu, ʔuḥṭī -nā, ʔuttuḳī -ta, ʔuttuḳī -ti, ʔuttuḳī -tumā, ʔusturḍī -tum, ʔusturḍī -tunna, etc.)

46. (Precedes 53)

$[^V_{pf}] \quad \{c_1 - c_2 - w_3(y)\}; \quad -c_3 \text{ pro } V_2, S+2$

(Cf. sarū-tu, sarū-nā, baq̄-ta, baq̄-ti, xaš̄-tumā, xaš̄-tum, rad̄-tunna; duṣ̄-tu, ruṣ̄-nā, rum̄-ta, wuq̄-ti, guz̄-tumā, xuš̄-tum, xuš̄-tunna, etc.)

47. (Precedes 49, 50, 52 and 53)

$[^V_{pf,a,3,p1,f}] \quad IX, XI, XVII; \quad \text{exp}, S^1 + \bar{p}$

(Thus ?ihmarar-na, ?ihmārar-na, ?iqśaṣrar-na, etc.)

48 (Precedes 49, 51, 52 and 53)

$[^V_{pf,p,3,p1,f}] \quad IX, XI, XVII; \quad \text{exp}, \underline{i}, S^2 + \bar{p}$

(Thus ṣḥmurir-na, ṣḥmūrir-na, ṣuqṣuṣrir-na, etc.)

49 (Precedes 50, 51, 52 and 53)

$[^V_{pf,3(f)}] \quad IX, XI, XVII; \quad , S + \bar{p}$

(Thus ?ihmarr-a, ?ihmarr-at, ?ihmārr-ā, ?ihmārr-atā, ?iqśaṣarr-ū; ṣḥmurr-a, ṣḥmurr-at, ṣḥmūr-ā, ṣuqṣuṣirr-atā, ṣuqṣuṣirr-ū, etc.)

50. (Precedes 53)

$[^V_{pf,a}] \quad IX, XI, XVII; \quad \text{exp}, S^1 + 2$

(Thus ?ihmarar-tu, ?ihmarar-nā, ?ihmarar-ta, ?ihmārar-ti, ?ihmārar-tumā, ?iqśaṣrar-tum, ?iqśaṣrar-tunna, etc.)

51. (Precedes 53)

$[^V_{pf,p}] \quad IX, XI, XVII; \quad \text{exp}, \underline{i}, S^2 + 2$

(Thus ṣḥmurir-tu, ṣḥmurir-ta, ṣḥmūrir-ti, ṣḥmūrir-tumā, ṣuqṣuṣrir-tum, ṣuqṣuṣrir-tunna, etc.)

52. (Precedes 53)

$[\overset{V}{pf}, 3(f)]$,S+ṣ

(Cf. katab-a, jalas-at, naṣar-ā, fariḥ-atā, ṣaruf-ū, fataḥ-na, radd-a, madad-na, qāl-ā, ṣār-ū, ḥājj-a, lājj-at, tawādad-ū; kutib-a, sumiṣ-at, ḡumir-ā, wuṣil-atā, ḡukir-ā, nuṣir-na, etc.)

53. $[\overset{V}{pf}]$,S+ṭ

(Cf. katab-tu, naṣar-nā, jalas-ta, fariḥ-ti, fahim-tumā, ṣaruf-tum, lamas-tunna; kutib-tu, nuṣir-nā, sumiṣ-ta, ḡumir-ti, wuṣil-tumā, ḡukir-tum, ṣurif-tunna, etc.)

6.2.2.2 The Passive Imperfectives

For the same reason the cover-symbols (ṭ and ṣ) were used with the 'Perfectives' to represent the pronominal suffixes, they will continue being used in this division for the same purpose. As for the prefixes of the 'Imperfectives', which are only four discrete phonemes (viz. ʔ, n, t and y), they will be here totally ignored in the Rule-operations, as they are readily identifiable in the Pronouns-Tables of Chapter V; as well as in the demonstrative exemplification accompanying each Rule. Also, in the operations (pro a and pro u) of the Imperfective Rules (Active/Passive), /a/ and /u/ will be referring to the vowels immediately following the Consonantal prefixes. Accordingly, the Rules of the Passive Imperfectives should read as follows:

1. (Precedes 2 and 36)

$[\overset{V}{If}, p, 3, p1, f]$ II, V $\{c_1 - c_2 - c_2\}$; ,T'+ṣ

(Cf. y-uṣazzaz-na, y-ujallal-na, y-utaṣazzaz-na, y-utajallal-na, etc.)

2. (Precedes 35 and 36)

$[^V\text{If},p,3,p1,f]$ $\{c_1-c_2-c_2\}$; $\text{exp},T'+\tilde{p}$

(Thus y-umdad-na, y-uḡrar-na, y-umlal-na, etc.)

3. (Precedes 4 and 36)

$[^V\text{If},p,2,p1,f]$ $\text{II},V \{c_1-c_2-c_2\}$; $\text{exp},T'+2$

(Cf. t-uḡazzaz-na, t-ujallal-na, t-utaḡazzaz-na, t-utajallal-na, etc.)

4. (Precedes 36)

$[^V\text{If},p,2,p1,f]$ $\{c_1-c_2-c_2\}$; $\text{exp},T'+2$

(Thus t-umdad-na, t-uḡrar-na, t-umlal-na, etc.)

5. (Precedes 6, 9, 10, 11, 12 and 36)

$[^V\text{If},p,3(f)]$ $\text{VIII } \{\text{?a}\chi\text{a}\delta\}$; $,T'+\tilde{p}$

(Cf. y-uttaxaḡ-u, t-uttaxaḡ-āni, y-uttaxaḡ-ūna, y-uttaxaḡ-na, etc.)

6. (Precedes 11, 12 and 36)

$[^V\text{If},p]$ $\text{VIII } \{\text{?a}\chi\text{a}\delta\}$; $,T'+2$

(Cf. ?-uttaxaḡ-u, t-uttaxaḡ-āni, t-uttaxaḡ-ūna, t-uttaxaḡ-na, etc.)

7. (Precedes 36)

$[^V\text{If},p,1,\text{sq}(f)]$ $\text{IV},\text{VIII } \{\text{?}_1-c_2-c_3\}$; $\text{pro } u,-c ,T'+2$

(Thus ?-ūman-u, ?-ūtaman-u, etc.)

8. (Precedes 36)

$[^V \text{If}, p, 1, \text{sq}(f)]$ $\{\text{?}_1 - c_2 - c_3\}$; pro u, $-c_1, T' + 2$

(Thus $\text{?}-\bar{u}man-u$, $\text{?}-\bar{u}mar-u$, $\bar{u}laf-u$, etc.)

9. Optional (Precedes 35 and 36)

$[^V \text{If}, p, 3(f)]$ IV, VIII $\{\text{?}_1 - c_2 - c_3\}$; pro u, $-c_1, T' + \bar{p}$

(Cf. $y-\bar{u}man-u$, $t-\bar{u}man-u$, $y-\bar{u}taman-\bar{a}ni$, $t-\bar{u}taman-\bar{a}ni$, $y-\bar{u}man-\bar{u}na$, $y-\bar{u}taman-na$, etc.)

10. Optional (Precedes 11, 12, 35 and 36)

$[^V \text{If}, p, 3(f)]$ $\{\text{?}_1 - c_2 \ c_3\}$; pro u, $-c_1, T' + \bar{p}$

(Cf. $y-\bar{u}mar-u$, $t-\bar{u}mar-u$, $y-\bar{u}mar-\bar{a}ni$, $t-\bar{u}mar-\bar{a}ni$, $y-\bar{u}laf-\bar{u}na$, $y-\bar{u}laf-na$, etc.)

11. Optional (Precedes 36)

$[^V \text{If}, p]$ IV, VIII $\{\text{?}_1 - c_2 - c_3\}$; pro u, $-c_1, T' + 2$

(Cf. $n-\bar{u}man-u$, $n-\bar{u}taman-u$, $t-\bar{u}man-\bar{u}na$, $t-\bar{u}taman-\bar{u}na$, $t-\bar{u}man-na$, $t-\bar{u}taman-na$, etc.)

12. Optional (Precedes 36)

$[^V \text{If}, p]$ $\{\text{?}_1 - c_2 - c_3\}$; pro u, $-c_1, T' + 2$

(Cf. $n-\bar{u}mar-u$, $t-\bar{u}mar-\bar{u}na$, $t-\bar{u}laf-\bar{u}na$, etc.)

13. (Precedes 35 and 36)

$[^V \text{If}, p, 3, p1, f]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; cur $\bar{a}, T' + \bar{p}$

(Cf. $y-uqam-na$, $y-u\chi tar-na$, $y-ustat\bar{a}b-na$, etc.)

14. (Precedes 35 and 36)

$[^V \text{If}, p, 3, p1, f]$ $\{C_1 - w_2(y) - c_3\}$; $\text{cur } \bar{a}, T' \bar{p}$

(Thus y-uqad-na, y-usam-na, y-uḫaf-na, y-uḫab-na, etc.)

15. (Precedes 36)

$[^V \text{If}, p, 2, p1, f]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; $\text{cur } \bar{a}, T' + 2$

(Cf. t-uqam-na, t-uḫtar-na, t-ustaḫab-na, etc.)

16. (Precedes 36)

$[^V \text{If}, p, 2, p1, f]$ $\{C_1 - w_2(y) - c_3\}$; $\text{cur } \bar{a}, T' + 2$

(Thus t-uqad-na, t-usam-na, t-uḫaf-na, t-uḫab-na, etc.)

17. (Precedes 21, 22, 35 and 36)

$[^V \text{If}, p, 3, \text{sg}(f)]$ II-VIII, X, XII, XIII $\{c_1 - c_2 - w_3(y)\}$; $\text{+ay: } \bar{a}, T' + \emptyset$

(Cf. y-urajjā, t-ujārā, y-urḏā, y-utarāmā, y-ustadḥā, y-uḥrawrā, y-ujlawwā, etc.)

18. (Precedes 21, 22, 35 and 36)

$[^V \text{If}, p, 3, \text{sg}(f)]$ $\{c_1 - c_2 - w_3(y)\}$; $\text{+ay: } \bar{a}, T' + \emptyset$

(Thus y-udḥā, y-uḫṢā, t-urmā, t-ūqā, etc.)

19. (Precedes 21, 22, 31, 32, 35 and 36)

$[^V \text{If}, p, 3, p1]$ II-VIII, X, XII, XIII $\{c_1 - c_2 - w_3(y)\}$; $\text{+y:w}, T' + na$

(Cf. y-urajjaw-na, t-ujārāw-na, y-urḏaw-na, y-utarāmaw-na, y-ustadḥaw-na, etc.)

20. (Precedes 21, 22, 31, 32, 35 and 36)

$[^V \text{If}, p, 3, p1]$ $\{c_1 - c_2 - w_3(y)\};$ $+y:w, T' + na$

(Thus y-urmaw-na, y-udṣaw-na, y-uχśaw-na, etc.)

21. (Precedes 31, 32 and 36)

$[^V \text{If}, p, 3(f)]$ II-VIII, X, XII, XIII $\{c_1 - c_2 - w_3(y)\};$ $, T' + \tilde{p}$

(Cf. y-urajjay-āni, t-ujāray-āni, y-urḍay-āni, t-utarāmay-āni, y-ustadṣay-na, y-uṣrawray-na, etc.)

22 (Precedes 31, 32 and 36)

$[^V \text{If}, p, 3(f)]$ $\{c_1 - c_2 - w_3(y)\};$ $, T' + \tilde{p}$

(Thus y-urmay-āni, t-udṣay-āni, y-uχśay-na, etc.)

23. (Precedes 31, 32 and 36)

$[^V \text{If}, p, 2, sg, f]$ II-VIII, X, XII, XIII $\{c_1 - c_2 - w_3(y)\};$ $, T' + na$

(Cf. t-urajjay-na, t-uṣāday-na, t-urḍay-na, t-utahāday-na, t-ustadṣay-na, t-uṣrawray-na, etc.)

24. (Precedes 31, 32 and 36)

$[^V \text{If}, p, 2, sg, f]$ $\{c_1 - c_2 - w_3(y)\};$ $, T' + na$

(Thus t-udṣay-na, t-urmay-na, t-uχśay-na, etc.)

25. (Precedes 31, 32 and 36)

$[^V \text{If}, p, 2, d(f)]$ II-VIII, X, XII, XIII $\{c_1 - c_2 - w_3(y)\};$ $, T' + 2$

(Cf. t-urajjay-āni, t-uṣāday-āni, t-urḍay-āni, t-utaṣāfay-āni, t-ustadṣay-āni, t-uṣrawray-āni, etc.)

26. (Precedes 31, 32 and 36)

$[^V\text{If},p,2,d(f)] \quad \{c_1-c_2-w_3(y)\}; \quad ,T'+2$

(Thus t-udṣay-āni, t-urmay-āni, t-uḫṢay-āni, etc.)

27. (Precedes 31, 32 and 36)

$[^V\text{If},p,2,p1,f] \quad \text{II-VIII,X,XII,XIII } \{c_1-c_2-w_3(y)\}; \quad ,T'+2$

(Cf. t-urajjay-na, t-uṣāday-na, t-urḍay-na, t-utaṣāfay-na, t-ustadṣay-na, t-uṣrawray-na, etc.)

28. (Precedes 31, 32 and 36)

$[^V\text{If},p,2,p1,f] \quad \{c_1-c_2-w_3(y)\}; \quad ,T'+2$

(Thus t-udṣay-na, t-urmay-na, t-uḫṢay-na, etc.)

29. (Precedes 31, 32 and 36)

$[^V\text{If},p,2,p1] \quad \text{II-VIII,X,XII,XIII } \{c_1-c_2-w_3(y)\}; \quad \pm y:w, T'+na$

(Cf. t-urajjaw-na, t-uṣadaw-na, t-urḍaw-na, t-utaṣāfaw-na, t-ustadṣaw-na, t-uṣrawraw-na, etc.)

30. (Precedes 31, 32 and 36)

$[^V\text{If},p,2,p1] \quad \{c_1-c_2-w_3(y)\}; \quad \pm y:w, T'+na$

(Thus t-udṣaw-na, t-urmaw-na, t-uḫṢaw-na, etc.)

31. (Precedes 35 and 36)

$[^V\text{If},p] \quad \text{II-VIII,X,XII,XIII } \{c_1-c_2-w_3(y)\}; \quad \pm ay:\bar{a}, T'+\emptyset$

(Cf. ?-urajjā, n-ujāzā, t-urḍā, ?-utaṣāfā, ?-ustadṣā, t-uṣrāwrā, etc.)

32. (Precedes 25 and 36)

$[^V\text{If},p]$ $\{c_1-c_2-w_3(y)\};$ $\pm ay:\bar{a},T'+\emptyset$

(Thus ?-ūdŋā, n-uχšā, t-urmā, etc.)

33. (Precedes 35 and 36)

$[^V\text{If},p,3,p1,f]$ IX,XI,XVII; exp,T'+ǣ

(Thus y-uḥmarar-na, y-uḥmārar-na, y-uqšāŋrar-na, etc.)

34. (Precedes 36)

$[^V\text{If},p,2,p1,f]$ IX,XI,XVII; exp,T'+2

(Thus t-uḥmarar-na, t-uḥmārar-na, t-uqšāŋrar-na, etc.)

35. (Precedes 36)

$[^V\text{If},p,3(f)]$,T',ǣ

(Cf. y-uktab-u, t-unšar-ṭna, y-uradd-āni, t-uḡmar-āni, y-uṭāŋ-ūna, y-ūŋad-na, etc.)

36. $[^V\text{If},p]$,T'+2

(Cf. ?-uktab-u, n-unšar-u, t-uradd-u, t-uḡmar-ṭna, t-uŋād-āni, t-ūhab-āni, t-uṭāŋ-ūna, etc.)

6.2.2.3 Moods of the Imperfectives

For the same reasons mentioned in the introduction to the 'Perfectives' and the 'Passive Imperfectives', the Pronominal prefixes will be discarded in this division of Rule-grouping. The

symbols (2 and 3) for the suffixes will also be used here for the same purpose (mainly in the Indicative forms); with the idea that the pronouns be realized only when they are formally altered as part of the operations in the 'representation' component. Further symbols are: In(Indicative), js(Jussive), sj(Subjunctive), §(Jussive or Subjunctive), eg(Energicus) and v+ (the prefixed vowel '/a/ or /u/' of the Imperfective stem).

Operations for the active and passive forms are mostly the same as far as moods are concerned. Therefore, the Rules for 'Moods of the Imperfectives' will generate both active and passive forms, with, of course, the alteration of the Index symbol (T) in the 'representation' component into (T') in the case of passive forms. Otherwise, the few different passive formations will be captured by special rules involving the 'passive' symbol /p/ in their 'reference' component, and will always precede their 'Active' equivalents. Accordingly, Rules for the 'Moods of the Imperfective' should read as follows, with the concept of base-form being used in the Rules (109-117):

1. (Precedes 2 and 173)

[^VIn,2,p1,f] III,IV,VI-VIII,X {c₁-c₂-c₂}; exp,T+2

(Thus t-ušādid-na, t-uḥbib-na, t-atawādad-na, t-anṣadid-na, t-artadid-na, t-astamdid-na, etc.)

2. (Precedes 173)

$[^V\text{In}, 2, \text{pl}, \text{f}]$ $\{c_1 - c_2 - c_2\}$; exp, T+2

(Thus t-amdud-na, t-amlal-na, t-afrir-na, etc.)

3. (Preceded 4, 5, 6, 172 and 173)

$[^V\text{In}, 3, \text{pl}, \text{f}]$ III, IV, VI-VIII, X $\{c_1 - c_2 - c_2\}$; exp, T+3

(Thus y-ušādid-na, y-uḥbib-na, y-atawādad-na, y-anʿadid-na, y-artadid-na, y-astamdid-na, etc.)

4. (Precedes 172 and 173)

$[^V\text{In}, 3, \text{pl}, \text{f}]$ $\{c_1 - c_2 - c_2\}$; exp, T+3

(Thus y-amdud-na, y-amlal-na, y-afrir-na, etc.)

5. Optional (Precedes 6, 172 and 173).

$[^V\text{In}, 3(\text{f})]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+3

(Cf. y-ušādid-u, y-atalājaj-u, t-uwādid-u, t-atlājaj-āni, y-ušādid-ūna, y-atalājaj-ūna, etc.)

6. Optional (Precedes 173)

$[^V\text{In}]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+2

(Cf. ?-uwādid-u, n-ulājij-u, t-atāšadad-ṭna, t-ušādid-āni, t-atalājaj-ūna, etc.)

7. Optional (Precedes 8, 21, 174 and 176)

$[^V\text{sj}, 2, \text{sg}, \text{f}]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+ṭ

(Thus t-ulājij-ṭ, t-atāšadad-ṭ, etc.)

8. (Precedes 9-12, 21 and 174-176)

$[^V\dot{\text{z}}, 2, \text{sg}, \text{f}]$ III, IV, VI-VIII, X $\{c_1-c_2-c_2\}$; T+ $\bar{\text{t}}$

(Cf. t-uhājj- $\bar{\text{t}}$, t-umirr- $\bar{\text{t}}$, t-anṣadd- $\bar{\text{t}}$, t-atawādd- $\bar{\text{t}}$, t-aḥtadd- $\bar{\text{t}}$, t-astaridd- $\bar{\text{t}}$, etc.)

9. Optional (Precedes 10, 11, 12 and 175)

$[^V\text{j s}, \text{sg}(\text{f})]$ III, IV, VI-VIII, X $\{c_1-c_2-c_2\}$; exp, T \emptyset

(Cf. ?-ulājjij, t-uṣziz, y-aṅgarir, y-atawādad, y-aḡtarir, y-astamdid, etc.)

10. (Precedes 11, 12 and 175)

$[^V\text{j s}, \text{sg}(\text{f})]$ III, IV, VI-VIII, X $\{c_1-c_2-c_2\}$; T+a

(Cf. ?-ulājj-a, ?-umirr-a, t-aṅgarr-a, y-ataṣādd-a, y-aḥtadd-a, t-astaridd-a, etc.)

11. Optional (Precedes 12 and 175)

$[^V\text{j s}, \text{sg}(\text{f})]$ $\{c_1-c_2-c_2\}$; exp, T+ \emptyset

(Cf. ?-ardud, t-amlal, y-afrir, etc.)

12. (Precedes 175)

$[^V\text{j s}, \text{sg}(\text{f})]$ $\{c_1-c_2-c_2\}$; T+a

(Cf. ?-arudd-a, ?-amall-a, t-ajidd-a, y-ahimm-a, t-alajj-a, etc.)

13. Optional (Precedes 14, 15, 16, 178 and 182)

$[^V\text{j s}, 1, \text{pl}(\text{f})]$ III, IV, VI-VIII, X $\{c_1-c_2-c_2\}$; exp, T+ \emptyset

(Cf. n-ulājjij, n-uṣziz, n-anṣadid, n-atawādad, n-aḡtarir, n-astamdid, etc.)

14. (Precedes 14, 16, 178 and 182)

$[^V j s, 1, p l(f)]$ III, IV, VI-VIII, X $\{c_1 - c_2 - c_2\}$; T+a

(Cf. n-uḥājj-a, n-umirr-a, n-anṣadd-a, n-atawādd-a, n-aḥtadd-a, n-astabidd-a, etc.)

15. Optional (Precedes 16, 178 and 182)

$[^V j s, 1, p l(f)]$ $\{c_1 - c_2 - c_2\}$; exp, T+∅

(Thus n-ardud, n-amlal, n-afrir, etc.)

16. (Precedes 178 and 182)

$[^V j s, 1, p l(f)]$ $\{c_1 - c_2 - c_2\}$; T+a

(Thus n-arudd-a, n-amall-a, n-afirr-a, etc.)

17. (Precedes 18, 24, 180 and 182)

$[^V \dot{s}, 2, p l, f]$ III, IV, VI-VIII, X $\{c_1 - c_2 - c_2\}$; exp, T+2

(Cf. t-uḥājjij-na, t-umdid-na, t-anṣadid-na, t-atawādad-na, t-artadid-na, t-astamdid-na, etc.)

18. (Precedes 24, 180 and 182)

$[^V \dot{s}, 2, p l, f]$ $\{c_1 - c_2 - c_2\}$; exp, T+2

(Thus t-amdud-na, t-amlal-na, t-afrir-na, etc.)

19. (Precedes 20, 24, 181 and 182)

$[^V \dot{s}, 3, p l, f]$ III, IV, VI-VIII, X $\{c_1 - c_2 - c_2\}$; exp, T+3

(Cf. y-uḥājjij-na, y-uḥbib-na, y-anṣadid-na, y-atawādad-na, y-artadid-na, y-astamdid-na, etc.)

20. (Precedes 24, 181 and 182)

$[^V\dot{\text{š}}, 3, \text{pl}, \text{f}]$ $\{c_1 - c_2 - c_2\}$; exp, T+ ṣ

(Thus y-amdud-na, y-amlal-na, y-afrir-na, etc.)

21. Optional (Precedes 176)

$[^V\text{sj}, \text{sg}(\text{f})]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+a

(Cf. ?-ulājij-a, t-uwādid-a, y-ataśādad-a, y-atawādad-a, etc.)

22. Optional (Precedes 24, 179 and 182)

$[^V\text{sj}, 1, \text{pl}(\text{f})]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+a

(Thus n-ulājij-a, n-ataśādad-a, etc.)

23. Optional (Precedes 177)

$[^V\text{sj}, \text{d}(\text{f})]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+ \bar{a}

(Cf. t-ulājij- \bar{a} , y-ulājij- \bar{a} , t-atasādad- \bar{a} , etc.)

24. Optional (Precedes 182)

$[^V\text{sj}, \text{pl}]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+ \bar{u}

(Thus t-uḥājij- \bar{u} , y-ataśadād- \bar{u} , etc.)

25. Optional (Precedes 26, 183 and 184)

$[^V\text{eg}, 2, \text{sg}, \text{f}]$ III, VI $\{c_1 - c_2 - c_2\}$; exp, T+inna(in)

(Thus t-ulājij-inna, t-ataśadad-in, etc.)

26. Optional (Precedes 183 and 184)
 $[^V_{eg,sg(f)}]$ III,VI $\{c_1-c_2-c_2\}$; exp,T+anna(an)
(Cf. ?-uwādid-anna, t-uwādid-an, y-ataśādad-anna, t-ataśādad-an, etc.)
27. Optional (Precedes 29, 186 and 188)
 $[^V_{eg,l,pl(f)}]$ III,VI $\{c_1-c_2-c_2\}$; exp,T+anna(an)
(Thus n-ulājij-anna, n-uwādid-an, n-ataśādad-anna, etc.)
28. Optional (Precedes 185)
 $[^V_{eg,d(f)}]$ III,VI $\{c_1-c_2-c_2\}$; exp,T+ānni
(Cf. t-ulājij-ānni, y-uḥājij-ānni, t-ataśādad-ānni, etc.)
29. (Precedes 31, 187 and 188)
 $[^V_{eg,pl,f}]$ III,IV,VI-VIII,X $\{c_1-c_2-c_2\}$; exp,T+nānni
(Cf. t-uwādid-nānni, t-uḥbib-nānni, t-anʿadid-nānni, y-atawādad-nānni, y-artadid-nānni, y-astamdid-nānni, etc.)
30. (Precedes 31, 187 and 188)
 $[^V_{eg,pl,f}]$ $\{c_1-c_2-c_2\}$; exp,T+nānni
(Cf. t-amdud-nānni, t-amlal-nānni, t-afrir,nānni, etc.)
31. Optional (Precedes 188)
 $[^V_{eg,pl}]$ III,VI $\{c_1-c_2-c_2\}$; exp,T+unna(un)
(Thus t-ulājij-unna, y-ataśādad-un, etc.)

32. (Precedes 33, 36-39, 172 and 173)

[^VIn,3(f)] VIII {?aχaδ}; T+ṽ

(Cf. y-attaχiδ-u, t-attaχiδ-u, y-attaχiδ-āni, y-attaχiδ-na, etc.)

33. (Precedes 38, 39 and 173)

[^VIn) VIII {?aχaδ}; T+2

(Cf. ?-attaχiδ-u, n-attaχiδ-u, t-attaχiδ-āni, t-attaχiδ-ūna, etc.)

34. (Precedes 35, 38, 39 and 173)

[^VIn,1,sg(f)] IV,VIII {?₁-c₂-c₃}; pro V+,-c₁,T+2

(Thus ?-atamir-u, ?-ātamin-u, ?-ūθir-u, ?-ūmin-u, etc.)

35. (Precedes 38, 39 and 173)

[^VIn,1,sg(f)] {?₁-c₂-c₃}; pro V+,-c₁,T+2

(Thus ?-āman-u, ?-āmur-u, ?-ālaf-u, etc.)

36. Optional (Precedes 37, 38, 39, 172 and 173)

[^VIn,3(f)] IV,VIII {?₁-c₂-c₃}; Pro V+,-c₁,T+ṽ

(Cf. y-ūθir-u, y-ūnis-u, y-ūmin-āni, y-ātamir-u, t-ātamir-āni, y-ātamir-ūna, etc.)

37. Optional (Precedes 38, 39, 172 and 173)

[^VIn,3(f)] {?₁-c₂-c₃}; pro V+,-c₁,T+ṽ

(Cf. y-ālaf-u, t-āmur-āni, y-ālaf-na, y-āmur-ūna, etc.)

38. Optional (Precedes 39 and 173)

[^VIn] IV,VIII (?₁-c₂-c₃); pro V+,-c₁,T+3

(Cf. n-ūmin-u, n-ātamir-u, t-ūnis-u, t-ātamir-īna, t-ūeir-na, t-ātamir-na, etc.).

39. Optional (Precedes 173)

[^VIn] [₁-c₂-c₃]; pro V+,-c₁,T+2

(Cf. n-āman-u, t-āmur-īna, t-āmur-āni, t-ālaf-ūna, etc.)

40. (Precedes 41,44-47, 51,54,55 and 174-176)

[^Vṣ,2,sg,f] VIII (ʔaxaḏ); T+ī

(Thus t-attaḫiḏ-ī).

41. (Precedes 46, 47 and 175)

[^Vjs,sg(f)] VIII (ʔaxaḏ); T+∅

(Thus ʔ-attaḫiḏ, t-attaḫiḏ, y-attaḫiḏ, etc.).

42. (Precedes 43,46,47 and 175)

[^Vjs,1,sg(f)] VIII,IV (?₁-c₂-c₃); pro V+,-c₁,T+∅

(Thus ʔ-ūmin, ʔ-ūḏin, ʔ-ūḫiḏ, ʔ-ātamin, ʔ-ātalif, ʔ-ātanis, etc.)

43. (Precedes 47 and 175)

[^Vjs, 1, sg(f)] (?₁-c₂-c₃); pro V+,-c₁,T+∅

(Thus ʔ-āmur, ʔ-āḏan, ʔ-āḫuḏ, etc.).

44. Optional (Precedes 45-47, 174 and 175)

$[^V\dot{\text{ṣ}}, 2, \text{sg}, \text{f}]$ VIII, IV ($?_1 - c_2 - c_3$); pro $V+, -c_1, T+i$

(Thus $t-\bar{u}min-i$, $t-\bar{u}nis-i$, $t-\bar{u}kil:i$, $t-\bar{a}tamin-i$, $t-\bar{a}talif-i$, $t-\bar{a}tanis-i$, etc.)

45. Optional (Preceds 47, 174 and 175)

$[^V\dot{\text{ṣ}}, 2\text{sg}, \text{f}]$ ($?_1 - c_2 - c_3$); pro $V+, -c_1, T+i$

(Thus $t-\bar{a}mur-i$, $t-\bar{a}man-i$, $t-\bar{a}\chi u\check{o}-i$, etc.)

46. Optional (Precedes 47 and 175)

$[^Vj\text{s}, \text{sg}(\text{f})]$ VIII, IV ($?_1 - v_2 - c_3$); pro $v+, -c_1, T+\emptyset$

(Thus $t-\bar{u}min$, $y-\bar{u}\check{o}in$, $t-\bar{u}nis$, $t-\bar{a}tamir$, $y-\bar{a}tanis$, $t-\bar{a}tamin$, etc.)

47. Optional (Precedes 175)

$[^Vj\text{s}, \text{sg}(\text{f})]$ ($?_1 - c_2 - c_2$); pro $V+, -c_1, T+\emptyset$

(Cf. $t-\bar{a}mur$, $y-\bar{a}man$, $t-\bar{a}\chi u\check{o}$, etc.)

48. (Precedes 49, 50, 68-70, 178 and 182)

$[^Vj\text{s}, 1, \text{pl}(\text{f})]$ VIII ($?a\chi a\check{o}$); $T+\emptyset$

(Thus $n-\text{atta}\chi i\check{o}$)

49. Optional (Precedes 50, 69, 70, 178 and 182)

$[^Vj\text{s}, 1, \text{pl}(\text{f})]$ IV, VIII ($?_1 - c_2 - c_2$); pro $V+, -c_1, T+\emptyset$

(Cf. $n-\bar{u}min$, $n-\bar{a}tamir$, $n-\bar{u}\check{o}in$, $n-\bar{a}talif$, etc.)

50. Optional (Precedes 70, 178 and 182)

$[^V_{js,1,pl}(f)]$ ($?_1-c_1-c_3$); pro $v+,-c_1,T+\emptyset$

(Thus $n-\bar{a}mur$, $n-\bar{a}man$, $n-\bar{a}\chi u\check{\delta}$, etc.)

51. (Precedes 54, 55 and 176)

$[^V_{sj,sg}(f)]$ VIII ($\mathfrak{A}\chi a\check{\delta}$); $T+a$

(Thus $?-atta\chi i\check{\delta}-a$, $t-atta\chi i\check{\delta}-a$, $y-atta\chi i\check{\delta}-a$, etc.)

52. (Precedes 53, 54, 55 and 176)

$[^V_{sj,1,sg}(f)]$ IV,VIII ($?-c_2-c_3$); pro $v+,-c_1,T+a$

(Thus $?-\bar{u}min-a$, $?-\bar{a}tamin-a$, $?-\bar{u}lif-a$, $?-\bar{a}talif-a$, $?-\bar{u}nis-a$, $?-\bar{a}tanis-a$, etc.)

53. (Precedes 55 and 176)

$[^V_{sj,1,sg}(f)]$ ($?_1-c_2-c_3$); pro $v+,-c_1,T+a$

(Thus $?-\bar{a}mur-a$, $?-\bar{a}man-a$, $?-\bar{a}\chi u\check{\delta}-a$, etc.)

54. Optional (Precedes 55 and 176)

$[^V_{sj,sg}(f)]$ IV,VIII ($?_1-c_2-c_3$); pro $v+,-c_1,T+a$

(Cf. $t-\bar{u}min-a$, $t-\bar{a}tamin-a$, $y-\bar{u}lif-a$, $y-\bar{a}talif-a$, $t-\bar{u}nis-a$, $t-\bar{a}tanis-a$, etc.)

55. Optional (Precedes 176)

$[^V_{sj,sg}(f)]$ ($?_1-c_2-c_3$); pro $v+,-c_1,T+a$

(Cf. $t-\bar{a}mur-a$, $y-\bar{a}man-a$, $t-\bar{a}\chi u\check{\delta}-a$, etc.)

56. (Precedes 57, 58 and 177)

$[^V_{\mathfrak{z},d}(f)]$ VIII ($\mathfrak{A}\chi a\check{\delta}$); $T+\bar{a}$

(Thus $t-atta\chi i\check{\delta}-\bar{a}$, $y-atta\chi i\check{\delta}-\bar{a}$)

57. Optional (Precedes 58 and 177)

$[^V\dot{s}, d(f)]$ IV, VIII ($?_1-c_2-c_3$); pro $v+,-c_1,T+\bar{a}$

(Cf. t-ūmin-ā, t-ātamin-ā, y-ūnis-ā, y-ātanis-ā, t-ūlif-ā, t-ātalif-ā, etc.)

58. Optional (Precedes 177)

$[^V\dot{s}, d(f)]$ ($?_1-c_2-c_3$); pro $v+,-c_1,T+\bar{a}$

(Cf. t-āmur-ā, y-āman-ā, t-āχuð-ā, etc.)

59. (Precedes 60, 61, 68-70, 179 and 182)

$[^Vsj,1,pl(f)]$ VIII ($?a\chi a\check{o}$); T+a

(Thus n-attaχið-a)

60. Optional (Precedes 61, 69, 70, 179 and 182)

$[^Vsj,1,pl(f)]$ IV, VIII ($?_1-c_2-c_3$); pro $v+,-c_1,T+a$

(Cf. n-ūmin-a, n-ātamin-a, n-ūnis-a, n-ātanis-a, n-ūlif-a, n-ātalif-a, etc.)

61. Optional (Precedes 70, 179 and 182)

$[^Vsj,1,pl(f)]$ ($?_1-c_2-c_3$); pro $v+,-c_1,T+a$

(Cf. n-āmur-a, n-āman-a, n-āχuð-a, etc.)

62. (Precedes 63, 64 and 180)

$[^V\dot{s},2,pl,f]$ VIII ($?a\chi a\check{o}$)- T+1

(Thus t-attaχið-na).

63. Optional (Precedes 64 and 180)
 $[\overset{V}{\dot{\text{š}}}, 2, p1, f]$ IV, VIII ($\text{ʔ}_1 - c_2 - c_3$); pro $v+, -c_1, T+2$
 (Cf. t-ūmin-na, t-ātamin-a, t-ūnis-na, t-ātanis-na, t-ūlif-na,
 t-ātalif-na, etc.)

64. Optional (Precedes 180)
 $[\overset{V}{\dot{\text{š}}}, 2, p1, f]$ ($\text{ʔ}_1 - c_2 - c_3$); pro $v+, -c_1, T+2$
 (Cf. t-āmur-na, t-āman-na, t-āχuð-na, etc.)

65. (Precedes 66, 67 and 181)
 $[\overset{V}{\dot{\text{š}}}, 3, p1, f]$ VIII (ʔaχað); $T+3$
 (Thus y-attaχið-na)

66. Optional (Precedes 67 and 181)
 $[\overset{V}{\dot{\text{š}}}, 3, p1, f]$ IV, VIII ($\text{ʔ}_1 - c_2 - c_3$); pro $v+, -c_1, T+3$
 (Cf. y-ūmin-na, y-ātamin-na, y-ūnis-na, y-ātanis-na, y-ūlif-na,
 y-ātalif-na, etc.)

67. Optional (Precedes 181)
 $[\overset{V}{\dot{\text{š}}}, 3, p1, f]$ ($\text{ʔ}_1 - c_2 - c_3$); pro $v+, -c_1, T+3$
 (Cf. y-āmur-na, y-āman-na, y-āχuð-na, etc.)

68. (Precedes 69, 70 and 182)
 $[\overset{V}{\dot{\text{š}}}, p1]$ VIII (ʔaχað); $T+\bar{u}$
 (Thus t-attaχið- \bar{u} , y-attaχið- \bar{u}).

69. Optional (Precedes 70 and 182)

[^Vṣ,p1] IV,VIII (ʔ₁-c₂-c₃); pro v+,-c₁,T+ū

(Cf. t-ūmin-ū, t-ātamin-ū, t-ūnis-ū, t-ātanis-ū, t-ūlif-ū, t-ātalif-ū, etc.)

70. Optional (Precedes 182)

[^Vṣ,p1] (ʔ₁-c₂-c₃); pro v+,-c₁,T+ū

(Cf. t-āmur-ū, t-āman-ū, y-āχuð-ū, etc.)

71. (Precedes 72, 74-78, 183 and 184)

[^Veg,2,sg,f] VIII (ʔaχað); T+inna(in)

(Thus t-attaχið-inna, t-attaχið-in)

72. (Precedes 77, 78 and 184)

[^Veg,sg(f)] VIII (ʔaχað); T+anna(an)

(Cf. ʔ-attaχið-anna, t-attaχið-anna, y-attaχið-an, t-attaχið-an, etc.)

73. (Precedes 74, 77, 78 and 184)

[^Veg,1,sg(f)] IV,VIII (ʔ₁-c₂-c₃); pro v+,-c₁,T+anna(an)

(Cf. ʔ-ūmin-anna, ʔ-ātamin-anna, ʔ-ūðin-an, ʔ-ātamir-an, etc.)

74. (Precedes 77 and 184)

[^Veg,1,sg(f)] (ʔ₁-c₂-c₃); pro v+,-c₁,T+anna(an)

(Cf. ʔ-āmur-anna, ʔ-āman-anna, ʔ-āχuð-an, etc.)

75. Optional (Precedes 76-78, 183 and 184)
 $[^V_{eg,2,sg,f}]$ IV,VIII ($\text{?}_1\text{-c}_2\text{-c}_3$); pro $v+,-c_1,T+inna(in)$
 (Cf. t-ūmin-inna, t-ātamin-inna, t-ūnis-in, t-ātalif-in, etc.)

76. Optional (Precedes 78, 183 and 184)
 $[^V_{eg,2,sg,f}]$ ($\text{?}_1\text{-c}_2\text{-c}_3$); pro $v+,-c_1,T+inna(in)$
 (Thus t-āmur-inna, t-āman-inna, t-āχuð-in, etc.)

77. Optional (Precedes 78 and 184)
 $[^V_{eg,sg(f)}]$ IV,VIII ($\text{?}_1\text{-c}_2\text{-c}_3$); pro $v+,-c_1,T+anna(an)$
 (Cf. t-ūmin-anna, t-ātamir-anna, y-ūnis-anna, y-ātamin-an, t-ūlif-an, y-ātamir-anna, etc.)

78. Optional (Precedes 184)
 $[^V_{eg,sg(f)}]$ ($\text{?}_1\text{-c}_2\text{-c}_3$); pro $v+,-c_1,T+anna(an)$
 (Cf. t-āmur-anna, y-āman-an, t-āχuð-anna, etc.)

79. (Precedes 80, 81 and 185)
 $[^V_{eg,d(f)}]$ VIII ($\text{?a}\chi\text{a}\check{\text{o}}$); T+ānni
 (Thus t-attaχið-ānni, y-attaχið-ānni)

80. Optional (Precedes 81 and 185)
 $[^V_{eg,d(f)}]$ IV,VIII ($\text{?}_1\text{-c}_2\text{-c}_3$); pro $v+,-c_1,T+\bar{a}nni$
 (Cf. t-ūmin-ānni, t-ātamir-ānni, y-ūnis-ānni, t-ātalif-ānni, etc.)

81. Optional (Precedes 185)

$[^V_{eg,d(f)}]$ ($?_1-c_2-c_3$); pro v+,-c₁,T+ānni

(Cf. t-āmur-ānni, y-āman-ānni, t-āχuð-ānni, etc.)

82. (Precedes 83-90 and 186-188)

$[^V_{eg,1,pl(f)}]$ VIII (ʔaχað); T+anna(an)

(Thus n-attaχið-anna, n-attaχið-an)

83. Optional (Precedes 84, 86, 87, 89, 90 and 186-188)

$[^V_{eg,1,pl(f)}]$ IV,VIII ($?_1-c_2-c_3$); pro v+,-c₁,T+anna(an)

(Cf. n-ūmin-anna, n-ātamin-anna, n-ūlif-an, n-ātalif-an, etc.)

84. Optional (Precedes 87, 90 and 186-188)

$[^V_{eg,1,pl(f)}]$ ($?_1-c_2-c_3$); pro v+,-c₁,T+anna(an)

(Cf. n-āmur-anna, n-āman-anna, n-āχuð-an, etc.)

85. (Precedes 86-90, 187 and 188)

$[^V_{eg,pl,f}]$ VIII (ʔaχað); T+nānni

(Thus t-attaχið-nānni, y-attaχið-nānni)

86. Optional (Precedes 87, 89, 90, 187 and 188)

$[^V_{eg,pl,f}]$ IV,VIII ($?_1-c_2-c_3$); pro v+,-c₁,T+nānni

(Thus t-ūlif-nānni, t-ātamir-nānni, y-ūmin-nānni, y-ātalif-nānni, etc.)

87. Optional (Precedes 90, 187 and 188)

$[^V_{eg,pl,f}]$ ($?_1-c_2-c_3$); pro v+,-c₁,T+nānni

(Cf. t-āmur-nānni, t-āman-nānni, y-āχuð-nānni, etc.)

88. (Precedes 89, 90 and 188)

[^V_{eg,p1}] VIII (ʔaχaǝ)- T+unna(un)

(Thus t-attaχiǝ-unna, y-attaχiǝ-un, etc.)

89. Optional (Precedes 90 and 188)

[^V_{eg,p1}] IV,VIII (ʔ₁-c₂-c₃); pro v+,-c₁,T+unna(un)

(Cf. t-ūmin-unna, t-ātamin-unna, y-ūlif-un, y-ātalif-un, etc.)

90. Optional (Precedes 188)

[^V_{eg,p1}] (ʔ₁-c₂-c₃); pro v+,-c₁,T+unna(un)

(Cf. t-āmur-unna, t-āman-unna, y-āχuǝ-un, etc.)

91. (Precedes 93 and 173)

[^V_{In,2,p1,f}] VII, VIII (c₁-w₂(y)-c₃); cur ā,T+ʔ

(Cf. t-anqad-na, t-anba ʕ-na, t-aqtad-na, t-abta ʕ-na, etc.)

92. (Precedes 93 and 173)

[^V_{In,2,p1,f}] IV,X (c₁-w₂(y)-c₃); cur ĩ,T+ʔ

(Thus t-uqim-na, t-astaqim-na, t-umil-na, t-astamil-na, etc.)

93. (Precedes 173)

[^V_{In,2,p1,f}] (c₁-w₂(y)-c₃); cur v₂,T+ʔ

(Cf. t-aʕud-na, t-aqum-na, t-abi ʕ-na, t-aχa f-na, etc.)

94. (Precedes 96, 172 and 173)

[^VIn,3,p1,f] VII,VIII ($c_1-w_2(y)-c_3$); cur $\bar{a}, T+\mathfrak{f}$

(Cf. y-anqad-na, y-anba \mathfrak{f} -na, y-aqtad-na, y-abta \mathfrak{f} -na, etc.)

95. (Precedes 96, 172 and 173)

[^VIn,3,p1,f] IV,X ($c_1-w_2(y)-c_3$); cur $\bar{i}, T+\mathfrak{f}$

(Thus y-uqim-na, y-astaqim-na, y-umil-na, y-astamil-na, etc.)

96. (Precedes 172 and 173)

[^VIn,3,p1,f] ($c_1-w_2(y)-c_3$); cur $v_2, T+\mathfrak{f}$

(Cf. y-a \mathfrak{f} ud-na, y-aqum-na, y-abi \mathfrak{f} -na, y-a \mathfrak{x} af-na, etc.)

97. (Precedes 98-100, 174 and 175)

[^V \mathfrak{f} ,2,sg,f] IV,VII,VIII,X($c_1-w_2(y)-c_3$); T+ \mathfrak{f}

(Cf. t-uqim- \bar{i} , t-anqad- \bar{i} , t-aqtad- \bar{i} , t-abtā \mathfrak{f} - \bar{i} , t-astaqim \bar{i} , t-astatib- \bar{i} , etc.)

98. (Precedes 100, 174 and 175)

[^Vjs,2,sg,f] ($c_1-w_2(y)-c_3$); T+ \mathfrak{f}

(Cf. t-ajūr- \bar{i} , t-a \mathfrak{t} ul- \bar{i} , t-aqul- \bar{i} , t-a \mathfrak{x} āf- \bar{i} , t-adīn- \bar{i} , etc.)

99. (Precedes 100 and 175)

[^Vjs,sg(f)] IV,VII,VII,X ($c_1-w_2(y)-c_3$); Cur $v_2, T+\emptyset$

(Cf. ?-uqim, ?-umil, t-anqad, y-aqtad, y-abta \mathfrak{f} , t-astaqim, t-astatib, etc.)

100. (Precedes 175)

[^Vjs,sg(f)] ($c_1-w_2(y)-c_3$) Cur $v_2, T+\emptyset$

(Cf. ?-aqum, ?-a \mathfrak{t} ul, t-aqul, y-a \mathfrak{x} af, y-anam, t-abi \mathfrak{f} , t-a \mathfrak{g} ib, etc.)

101. (Precedes 102, 178 and 182)

$[^V j s, 1, p1(f)]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + \emptyset$

(Cf. n-uqim, n-aqtad, n-abtaf, n-astaqim, n-astaṭib, etc.)

102. (Precedes 178 and 182)

$[^V j s, 1, p1(f)]$ $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + \emptyset$

(Cf. n-aqul, n-aḡib, n-abif, naṭul, etc.)

103. (Precedes 104 and 180)

$[^V \dot{j}, 2, p1, f]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; cur $v_2 + T + \dot{z}$

(Cf. t-uqim-na, t-anqad-na, t-aqtad-na, t-astaqim-na, t-astaṭib-na, etc.)

104. (Precedes 180)

$[^V \dot{j}, 2, p1, f]$ $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + \dot{z}$

(Cf. t-aqum-na, t-anam-na, t-aṭul-na, t-aḡib-na, etc.)

105. (Precedes 106 and 181)

$[^V \dot{j}, 3, p1, f]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + \dot{z}$

(Cf. y-uqim-na, y-anqad-na, y-abtaf-na, y-astaqim-na, y-astaṭib-na, etc.)

106. (Precedes 181)

$[^V \dot{j}, 3, p1, f]$ $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + \dot{z}$

(Thus y-aqum-na, y-aṭul-na, y-anam-na, y-aḡib-na, etc.)

107. (Precedes 108 and 187)

$[^V e g, p1, f]$ IV, VII, VIII, X $\{c_1 - w_2(y) - c_3\}$; cur $v_2, T + n\bar{a}nni$

(Cf. t-uqim-nānni, y-anqad-nānni, t-abtaf-nānni, y-astaqim-nānni, t-astaṭib-nānni, etc.)

108. (Precedes 187)

$[^V_{eg,pl,f}] \quad \{c_1-w_2(y)-c_3\}; \quad \text{cur } v_2, T+n\bar{a}nni$

(Cf. t-aqum-nānni, t-amil-nānni, y-aṭul-nānni, y-abif-nānni, etc.)

109. (Precedes 173)

$[^V_{In,2,sg,f}] \quad \{c_1a(i)c_2ay_3\}; \quad T+na$

(Cf. t-asṣay-na, t-arḍay-na, t-aḫṣay-na, t-alqay-na, t-array-na, etc.)

110. (Precedes 173)

$[^V_{In,pl}] \quad \{c_1a(i)c_2ay_3\}; \quad \pm c_3:w, T+na$

(Cf. t-asṣaw-na, y-arḍaw-na, t-aḫṣaw-na, y-alqaw-na, t-araw-na, y-aḡṣaw-na, etc.)

111. (Precedes 112, 113 and 174-176)

$[^V_{\dot{s},2,sg,f}] \quad \{c_1a(i)c_2ay_3\} \quad T+\emptyset$

(Thus t-asṣay, t-arḍay, t-aḫṣay, etc.)

112. (Precedes 175)

$[^V_{js,sg(f)}] \quad \{c_1a(i)c_2ay_3\}; \quad -c_3, T+\emptyset$

(Thus ṭ-asṣa, t-alqa, y-arḍa, t-aḫṣa, etc.)

113. (Precedes 176)

$[^V_{sj,sg(f)}] \quad \{c_1a(i)c_2ay_3\}; \quad -c_3, \text{pro } v_2, T+\emptyset$

(Thus ṭ-asṣā, t-alqā, y-arḍā, t-aḫsā, etc.)

114. (Precedes 116, 178 and 182)

$[^V_{js,1,pl(f)}] \quad \{c_1a(i)c_2ay_3\}; \quad -c_3, T+\emptyset$

(Thus n-asṣa, n-alqa, n-arḍa, n-aḫṣa, etc.)

115. (Precedes 116, 179 and 182)

$[^V_{sj,1,pl}(f)] \quad \{c_1a(i)c_2ay_3\}; \quad -c_3, \text{pro } v_2, T+\emptyset$

(Thus n-asfā, n-alqā, n-ardā, n-aχśā, etc.)

116. (Precedes 182)

$[^V_{\ddot{s},pl}] \quad \{c_1a(i)c_2ay_3\}; \quad \pm c_3:w, T+\emptyset$

(Thus t-asfaw, t-ardaw, y-alqaw, y-aχśaw, etc.)

117. (Precedes 188)

$[^V_{eg,pl}] \quad \{c_1a(i)c_2ay_3\}; \quad \pm c_3:w, T+\text{unna}(\text{un})$

(Thus t-asfaw-unna, t-ardaw-un, y-alwaw-unna, y-aχśaw-un, etc.)

118. (Precedes 120, 121, 123 and 173)

$[^V_{In,2,sg,f}] \quad V, VI \{c_1-c_2-w_3(y)\}; \quad T+na$

(Cf. t-atazakkay-na, t-atadannay-na, t-atabāhay-na, t-atafālay-na, etc.)

119. (Precedes 120, 122, 123 and 173)

$[^V_{In,2,sg,f}] \quad II-IV, VII, VIII, X, XII, XIII \{c_1-c_2-w_3(y)\}; \quad -v_2, c_3, T+\frac{1}{2}$

(Cf. t-uzakk-īna, t-uṣād-īna, t-urḍ-īna, t-anēan-īna, t-abtal-īna, t-astadn-īna, t-aṣrawr-īna, t-ajlaww-īna, etc.)

120. (Precedes 123 and 173)

$[^V_{In,2,sg,f}] \quad \{c_1-c_2-w_3(y)\}; \quad -v_2'c_3, T+\frac{1}{2}$

(Cf. t-ağz-īna, t-arm-īna, t-adṣ-īna, t-aṣ-īna, t-af-īna, t-aṭw-īna, t-anw-īna, etc.)

121. (Precedes 123, 172 and 173)

[^VIn,sg(f)] V,VI {c₁-c₂-w₃(y)}; -c₃,pro v₃,T+∅

(Thus t-atamannā, ʔ-atazakkā, y-atabāhā, etc.)

122. (Precedes 123, 172 and 173)

[^VIn,sg(f)] II-IV,VII,VIII,X,XII,XIII {c₁-c₂-w(y)}; -c₃,pro v₂,T+∅

(Cf. ʔ-uzakkī, t-uṣādī, t-urdī, y-aneanī, y-astadī, t-aṣrawrī, etc.)

123. (Precedes 172 and 173)

[^VIn,sg(f)] {c₁-c₂-w₃(y)}; -c₃,pro v₂,T+∅

(Cf. ʔ-asfā, ʔ-ağzū, t-ardā, t-afī, y-aḫšā, y-aṭwī, t-anī, t-anwī, etc.)

124. (Precedes 126, 127 and 173)

[^VIn,1,pl(f)] V,VI {c₁-c₂-w₃(y)}; -c₃,pro v₃,T+∅

(Thus n-atawallā, n-ataṣālā, etc.)

125. (Precedes 126 and 173)

[^VIn,1,pl(f)] II,IV,VII,VIII,X,XII,XIII {c₁-c₂-w₃(y)}; -c₃,pro v₂,T+∅

(Cf. n-uzakkī, n-urdī, n-uṣādī, n-antaqī, n-abtagī, n-astadī, n-aṣrawrī, etc.)

126. (Precedes 173)

[^VIn,1,pl(f)] {c₁-c₂-w₃(y)}; -c₃,pro v₂,T+∅

(Thus n-asfā, n-adṣū, n-armī, n-aqī, n-anwī, etc.)

127. (Precedes 129, 131, 172 and 173)

[^VIn,p1] V,VI {c₁-c₂-w₃(y)}; ±c₃:w.T+na

(Cf. t-atazakkaw-na, t-tabāhaw-na, y-atawallaw-na, y-ataṣālaw-na, etc.)

128. (Precedes 129 and 173)

[^VIn,2,p1] II-IV,VII,VIII,X,XII,XIII {c₁-c₂-w₃(y)}; -v₂'c₃,T+ḫ

(Cf. t-uzakk-ūna, t-uṣād-ūna, t-urḏ-ūna, t-antaq-ūna, t-astadṣ-ūna, t-aṣrawr-ūna, etc.)

129. (Precedes 173)

[^VIn,2,p1] {c₁-c₂-w₃(y)}; -v₂'c₃,T+ḫ

(Cf. t-aḡz-ūna, t-abn-ūna, t-adṣ-ūna, t-aṭw-ūna, etc.)

130. (Precedes 131, 172 and 173)

[^VIn,3,p1] II-IV,VII,VIII,X,XII,XIII {c₁-c₂-w₃(y)}; -v₂'c₃,T+ḫ

(Cf. y-uzakk-ūna, y-uṣād-ūna, y-urḏ-ūna, t-antaq-ūna, y-astadṣ-ūna, y-aṣrawr-ūna, etc.)

131. (Precedes 172 and 173)

[^VIn,3,p1] {c₁-c₂-w₃(y)}; -v₂'c₃,T+ḫ

(Thus y-aḡz-ūna, y-ajn-ūna, y-aṣ-ūna, y-anw-ūna, etc.)

132. (Precedes 136-138, 141, 174, 175 and 176)

[^Vḡ,2,sg,f] V,VI {c₁-c₂-w₃(y)}; T+∅

(Cf. t-ataradday, t-atawallay, t-ataḡābay, t-atadānay, etc.)

133. (Precedes 134-138 and 174-176)

[^Vḡ,p,2,sg,f] II-IV,VII,VIII,X,XII,XIII {c₁-c₂-w₃(y)}; T+'∅

(Cf. t-urabbay, t-uwālay, t-udnay, t-ubtalay, t-ustadḡay, t-uḡrawray, t-ujlawway, etc.)

134. (Precedes 136-138 and 174-176)

[^Vḡ,2,sg,f] II-IV,VII,VIII,X,XII,XIII {c₁-c₂-w₃(y)}; -v₂'c₃,T+ī

(Cf. t-urabb-ī, t-uwāl-ī, t-udn-ī, t-anēan-ī, t-abtal-ī, t-astadḡ-ī, t-aḡrawr-ī, t-ajlaww-ī, etc.)

135. (Precedes 136, 138 and 174-176)

[^Vḡ,p,2,sg,f] {c₁-c₂-w₃(y)}; T+'∅

(Cf. t-udnay, t-uḡṡay, t-urmay, etc.)

136. (Precedes 138 and 174-176)

[^Vḡ,2,sg,f] {c₁-c₂-w₃(y)}; -v₂'c₃,T+ī

(Cf. t-adn-ī, t-aqḡ-ī, t-asr-ī, t-asḡ-ī, etc.)

137. (Precedes 138 and 175)

[^Vjs,sg(f)] II-VIII,X,XII,XIII {c₁-c₂-w₃(y)}; -c₃,T+∅

(Cf. ḡ-urajji, ḡ-uwāli, t-udni, t-anēani, y-atamanna, y-atawāna, t-abtali, t-astadḡi, y-aḡrawri, t-ajlawi, etc.)

138. (Precedes 175)

[^Vjs,sg(f)] {c₁-c₂-w₃(y)}; -c₃,T+∅

(Cf. ḡ-aḡzu, ḡ-armi, t-adḡu, t-aqḡi, y-adnu, y-armi, t-asru, t-aḡi, etc.)

139. (Precedes 140, 145, 147, 178 and 182)

$[^V_{js,1,pl}(f)]$ II-VIII, X, XII, XIII $\{c_1-c_2-w_3(y)\}$; $-c_3, T+\emptyset$

(Cf. n-urajji, n-uwāli, n-udni, n-anθani, n-atamanna, n-atawāna, n-abtali, n-astadfi, n-aṣrawri, n-ajlawwi, etc.)

140. (Precedes 147, 178 and 182)

$[^V_{js,1,pl}(f)]$ $\{c_1-c_2-w_3(y)\}$; $-c_3, T+\emptyset$

(Cf. n-adṣu, n-abni, n-asru, etc.)

141. (Precedes 176)

$[^V_{sj,sg}(f)]$ V, VI $\{c_1-c_2-w_3(y)\}$; $-c_3, \text{pro } v_3, T+\emptyset$

(Thus ?-atawall-ā, t-atawān-ā, y-atazakk-ā, t-ataḡāb-ā, etc.)

142. (Precedes 143, 147, 179 and 182)

$[^V_{sj,1,pl}(f)]$ V, VI $\{c_1-c_2-w_3(y)\}$; $-c_3, \text{pro } v_3, T+\emptyset$

(Thus n-atamannā, n-atadāṣā, etc.)

143. (Precedes 147 and 182)

$[^V_{ṣ,p1}]$ V, VI $\{c_1-c_2-w_3(y)\}$; $+c_3:w, T+\emptyset$

(Cf. t-ataradḡaw, t-atarāḡaw, y-atawallaw, y-ataḡābaw, t-atazakkaw, y-atadannaw, etc.)

144. (Precedes 145-147 and 182)

$[^V_{ṣ,p,p1}]$ II-IV, VII, VIII, X, XII, XIII $\{c_1-c_2-w_3(y)\}$; $+c_3:w, T'+\emptyset$

(Cf. t-urajjaw, y-uwālaw, t-udnaw, y-ubtalaw, y-ustadṣaw, t-uṣrawraw, etc.)

145. (Precedes 147 and 182)

$[^V\dot{\text{š}},p1]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3,T+u$

(Cf. t-urajj- \bar{u} , y-uwāl- \bar{u} , t-udn- \bar{u} , t-anθan- \bar{u} , y-abtal- \bar{u} ,
y-astadſ- \bar{u} , t-aſrawr- \bar{u} , y-ajlaww- \bar{u} , etc.)

146. (Precedes 147 and 182)

$[^V\dot{\text{š}},p,p1]$ $\{c_1-c_2-w_3(y)\}$; $\pm c_3:w,T'+\emptyset$

(Cf. t-udnaw, y-uğzaw, t-urmaw, y-ubnaw, t-usraw, t-urđaw,
y-uχśaw, etc.)

147. (Precedes 182)

$[^V\dot{\text{š}},p1]$ $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3,T+\bar{u}$

(Cf. t-adn- \bar{u} , y-ağz- \bar{u} , t-arm- \bar{u} , t-asr- \bar{u} , t-aſ- \bar{u} , t-arđ- \bar{u} ,
y-aχś- \bar{u} , etc.)

148. (Precedes 149-151, 182 and 184)

$[^Veg,p,2,sg,f]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $T'+inna(in)$

(Cf. t-urabbay-inna, t-uwālay-in, t-udnay-inna, t-ubtalay-inna,
t-ustadſay-in, t-uſrawray-inna, etc.)

149. (Precedes 151, 183 and 184)

$[^Veg,2,sg,f]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3,T+inna(in)$

(Cf. t-urabb-inna, t-uwāl-in, t-udn-inna, t-anθan-in, t-abtal-inna,
t-astadſ-in, t-aſrawr-inna, t-ajlaww-in, etc.)

150. (Precedes 151, 183 and 184)

$[^V_{eg,p,2,sg,f}] \quad \{c_1-c_2-w_3(y)\}; \quad T'+inna(in)$

(Thus t-udṣay-inna, t-urmay-in, t-urḍay-inna, t-uḫṣay-in, etc.)

151. (Precedes 183 and 184)

$[^V_{eg,2,sg,f}] \quad \{c_1-c_2-w_3(y)\}; \quad -v_2'c_3,T+inna(in)$

(Thus t-adṣ-inna, t-arm-in, t-asr-inna, t-asṣ-inna, t-aḫṣ-in, etc.)

152. (Precedes 156 and 188)

$[^V_{eg,p1}] \quad V,VI \quad \{c_1-c_2-w_3(y)\}; \quad \pm c_3:w,T+unna(un)$

(Cf. t-ataradḍaw-unna, y-ataṣālāw-un, t-atawallaw-unna, y-ataḡābaw-un, t-atazakkaw-unna, y-atadānaw-un, etc.)

153. (Precedes 154-156 and 188)

$[^V_{eg,p,p1}] \quad II-IV,VII,VIII,X,XII,XIII \quad \{c_1-c_2-w_3(y)\}; \quad \pm c_3:w,T'+unna(un)$

(Cf. t-urajjaw-unna, y-uwālāw-un, t-udnaw-unna, t-ubtalaw-un, y-ustadṣaw-unna, t-uṣrawraw-un, etc.)

154. (Precedes 156 and 188)

$[^V_{eg,p1}] \quad II-IV,VII,VIII,X,XII,XIII \quad \{c_1-c_2-w_3(y)\}; \quad -v_2'c_3,T+unna(un)$

(Cf. t-urajj-unna, y-uwāl-un, t-udn-unna, y-anṡan-un, tabtal-unna, y-astadṣ-un, t-aṣrawr-unna, y-ajlaww-un, etc.)

155. (Precedes 156 and 188)

$[^V_{eg,p,p1}] \quad \{c_1-c_2-w_3(y)\}; \quad \pm c_3:w,T'+unna(un)$

(Cf. t-ublāw-unna, t-udṣaw-un, t-urmaw-unna, t-uḫṣaw-un, etc.)

156. (Precedes 188)

$[^V_{eg,p1}] \quad \{c_1-c_2-w_3(y)\}; \quad -v_2'c_3, T+unna(un)$

(Cf. t-adŕ-unna, t-arm-un, y-abn-unna, t-asr-un, y-aŕ-unna, t-arḍ-un, y-aḫš-unna, etc.)

157. (Precedes 173)

$[^V_{In,2,p1,f}] \quad IX, XI, XVII; \quad exp, T+2$

(Thus t-aḥmarir-na, t-aḥmārir-na, t-aqšaŕir-na, etc.)

158. (Precedes 172 and 173)

$[^V_{In,3,p1,f}] \quad IX, XI, XVII; \quad exp, T+\tilde{p}$

(Thus y-aḥmarir-na, y-aḥmārir-na, y-aqšaŕir-na, etc.)

159. (Precedes 161, 164 and 174-176)

$[^V_{š,2,sg,f}] \quad IX, XI, XVII; \quad T+\bar{t}$

(Thus t-aḥmarr- \bar{t} , t-aḥmārr- \bar{t} , t-aqšaŕirr- \bar{t} , etc.)

160. Optional (Precedes 161, 164 and 176)

$[^V_{js,p,sg(f)}] \quad IX, XI, XVII; \quad exp, T'+\emptyset$

(Thus t-uḥmarar, y-uḥmārar, ?-uqšaŕrar, etc.)

161. Optional (Precedes 164 and 176)

$[^V_{js,sg(f)}] \quad IX, XI, XVII; \quad exp, \underline{i}, T+\emptyset$

(Thus t-aḥmarir, y-aḥmārir, ?-aqšaŕrir, etc.)

162. Optional (Precedes 163, 165, 178 and 182)

$[^V_{js,p,1,p1(f)}]$ IX,XI,XVII; exp,T'+ \emptyset

(Thus n-uḥmarar, n-uḥmārar, n-uqśaḥrar, etc.)

163. Optional (Precedes 165, 178 and 182)

$[^V_{js,1,p1(f)}]$ IX,XI,XVII; exp, \perp i,T+ \emptyset

(Thus n-aḥmarir, n-aḥmārir, n-aqśaḥrir, etc.)

164. (Precedes 175)

$[^V_{js,sg(f)}]$ IX,XI,XVII; T+a

(Cf. ?-aḥmarr-a, t-aḥmārr-a, y-aqśaḥirr-a, t-aqśaḥirr-a, etc.)

165. (Precedes 178 and 182)

$[^V_{js,1,p1(f)}]$ IX,XI,XVII; T+a

(Thus n-aḥmarr-a, n-aḥmārr-a, n-aqśaḥirr-a, etc.)

166. (Precedes 167, 180 and 182)

$[^V_{ḡ,p,2,p1,f}]$ IX,XI,XVII; exp,T'+2

(Thus t-uḥmarar-na, t-uḥmārar-na, t-uqśaḥrar-na, etc.)

167. (Precedes 180 and 182)

$[^V_{ḡ,2,p1,f}]$ IX,XI,XVII; exp, \perp i,T+2

(Thus t-aḥmarir-na, t-aḥmārir-na, t-aqśaḥrir-na, etc.)

168. (Precedes 169, 181 and 182)

[^Vṣ,p,3,pl,f] IX,XI,XVII; exp,T'+ṣ

(Thus y-uḥmarar-na, y-uḥmārar-na, y-uqṣaṣrar-na, etc.)

169. (Precedes 181 and 182)

[^Vṣ,3,pl,f] IX,XI,XVII; exp,ᵘi,T+ṣ

(Thus y-aḥmarir-na, y-aḥmārir-na, y-aqṣaṣrir-na, etc.)

170. (Precedes 171 and 187)

[^Veg,p,pl,f] IX,XI,XVII; exp,T'+nānni

(Thus t-uḥmarar-nānni, y-uḥmārar-nānni, t-uqṣaṣrar-nānni, y-uqṣaṣrar-nānni, etc.)

171. (Precedes 187)

[^Veg,pl,f] IX,XI,XVII; exp,ᵘi,T+nānni

(Thus t-aḥmarir-nānni, y-aḥmārir-nānni, t-aqṣaṣrir-nānni, y-aqṣaṣrir-nānni, etc.)

172. (Precedes 173)

[^VIn,3(f)] T+ṣ

(Cf. y-aktub-u, t-asmaṣ-u, y-arudd-āni, t-aḥmur-āni, y-aṣid-na, y-aṣṭṣ-ūna, etc.)

173. [^VIn] T+2

(Cf. ḥ-aktub-u, n-anṣur-u, t-arudd-u, t-aḥmur-ṭna, t-aṣid-na, t-asruf-āni, t-aṣṭṣ-ūna, etc.)

174. (Precedes 175 and 176)

[^Vḡ,2,sg,f]

T+ṭ

(Cf. t-aktub-ṭ, t-afham-ṭ, t-anṣur-ṭ, t-aṣruf-ṭ, t-udaḥrij-ṭ, t-arudd-ṭ, t-aḡmur-ṭ, t-aḥid-ṭ, t-aqūl-ṭ, etc.)

175. [^Vjs,sg(f)]

T+∅

(Cf. ?-aktub, ?-afham, ?-anṣur, t-ajlis, t-aṣruf, y-aḡmur, y-asʔal, y-aḥid, y-udaḥrij, t-aḥid, t-udaḥrij, etc.)

176. [^Vsj,sg(f)]

T+a

(Cf. t-aktub-a, t-asmaḥ-a, t-aḍrib-a, t-ajlis-a, t-aṣrab-a, t-arudd-a, t-abṭṭ-a, y-aḡmur-a, y-aṣruf-a, y-aḥid-a, y-udaḥrij-a, t-udaḥrij-a, etc.)

177. [^Vḡ,d(f)]

T+ā

(Cf. t-aktub-ā, t-asmaḥ-ā, t-aḍrib-ā, t-ajlis-ā, y-aṣruf-ā, y-arudd-ā, y-abṭṭ-ā, y-aḥid-ā, t-aḡmur-ā, t-udaḥrij-ā, etc.)

178. (Precedes 182)

[^Vjs,1,p1(f)]

T+∅

(Cf. n-aktub, n-ajlis, n-afham, n-anṣur, n-aḡmur, n-udaḥrij, etc.)

179. (Precedes 182)

[^Vsj,1,p1(f)]

T+a

(Cf. n-aktub-a, n-ajlis-a, n-afham-a, n-anṣur-a, n-aḡmur-a, n-arudda, n-aḥid-a, naqūl-a, n-udaḥrij-a, etc.)

180. [^Vḡ , 2,pl,f] T+2

(Cf. t-aktub-na, t-ajlis-na, t-afham-na, t-anṣur-na, t-aḡmur-na, t-aṣid-na, t-udaḡrij-na, etc.)

181. [^Vḡ , 3,pl,f] T+ḡ

(Cf. y-aktub-na, y-ajlis-na, y-afham-na, y-anṣur-na, y-aḡmur-na, y-udaḡrij-na, y-aṣid-na, etc.)

182. [^Vḡ,pl] T+ū

(Cf. t-aktub-ū, t-ajlis-ū, y-aktub-ū, y-ajlis-ū, t-afham-ū, y-afham-ū, t-aḡmur-ū, y-aṣid-ū, t-aḡmur-ū, y-udaḡrij-ū, etc.)

183. (Precedes 184)

[^Veg,2,sg,f] T+inna(in)

(Cf. t-aktub-inna, t-afham-in, t-anṣur-inna, t-aḡmur-in, t-arudd-inna, t-aṣūd-in, t-udaḡrij-inna, etc.)

184. [^Veg,sg(f)] T+anna(an)

(Cf. ḡ-aktub-anna, ḡ-aṣlam-an, t-ajlis-anna, t-aṣruf-an, y-aṣid-anna, y-akūn-an, y-arudd-anna, t-udaḡrij-an, etc.)

185. [^Veg,d(f)] T+ānni

(Cf. t-aktub-ānni, t-ajlis-ānni, t-aṣruf-ānni, y-aḡmur-ānni, y-aṣid-ānni, y-aṣūd-ānni, t-udaḡrij-ānni, etc.)

186. (Precedes 187 and 188)

[^Veg,1,pl(f)] T+anna(an)

(Cf. n-aktub-anna, n-aṣruf-an, n-aḡmur-anna, n-aṣid-an, n-aṣūd-anna, n-udaḡrij-an, etc.)

187. [^Veg,pl,f] T+nānni

(Cf. t-aktub-nānni, t-ašruf-nānni, t-aʕmur-nānni, y-aʕid-nānni, y-udaḥrij-nānni, etc.)

188. [^Veg,pl] T+unna(un)

(Cf. t-aktub-unna, y-aʕlam-un, t-ajlis-unna, y-ašruf-un, t-arudd-unna, y-aʕmur-un, t-aʕūd-unna, y-abtʕ-un, t-aʕid-unna, y-udaḥrij-un, etc.)

6.2.2.4 The Imperatives and Energetic Imperatives

As has been explained in the discussion of the verbal moods (see p.304), the optional ending /-an/ of the 'Energetic Imperative' can be replaced by an /-ā/ whose prolongation is meant to compensate for the loss of /-n/. This optional practice (i.e. -an → ā) is left out of the Rules here, because of the rarity in its usage. The extra symbols used in this division are: (Ip) for 'Imperative', and (ep) for 'Energetic Imperative'. Accordingly, Rules for the 'Imperatives and Energetic Imperatives' should read as follows, with the base-form concept being used in the Rules (3, 8, 11, 18, 19, 22-28, 42-45, 52, 57, 58, 60 and 61):

1. Optional (Precedes 3 and 62)

[^VIp,sg,f] III,VI {c₁-c₂-c₂}; exp,I+ī

(Thus wādīd-ī, t-awādād-ī, lājij-ī, t-alājaj-ī, etc.)

2. Optional (Precedes 63)

[^Vep,sg,f] III,VI {c₁-c₂-c₂}; exp,I+inna(in)

(Thus wādīd-inna, lājij-in, t-awādād-inna, talājaj-in, etc.)

3. Optional (Precedes 62)

$[^V \text{Ip,sg,f}] \quad \{c_1 a c_2 a(i) c_2\}; \quad ?i+, \text{exp}, I+\bar{t}$

(Thus ?i-ʕziz- \bar{t} , ?i-mlal- \bar{t} , etc.)

4. Optional (Precedes 7, 8, 29 and 64)

$[^V \text{Ip,sg}] \quad \text{III,VI } \{c_1 - c_2 - c_2\}; \quad \text{exp}, I+\emptyset$

(Thus wādid, lājij, tawādad, talājaj, etc.)

5. Optional (Precedes 65)

$[^V \text{ep,sg}] \quad \text{III,VI } \{c_1 - c_2 - c_2\}; \quad \text{exp}, I+\text{anna}(\text{an})$

(Thus wādid-anna, lajij-an, tawādad-anna, talājaj-an, etc.)

6. (Precedes 8, 24, 29, 32, 48, 50 and 64)

$[^V \text{Ip,sg}] \quad \text{IX,XI,XVII}; \quad I+a$

(Thus ?ihmarr-a, ?ihmārr-a, ?iqṣaʕirr-a, etc.)

7. (Precedes 8, 24, 29 and 64)

$[^V \text{Ip,sg}] \quad \text{III,IV,VI-VIII,X } \{c_1 - c_2 - c_2\}; \quad I+a$

(Cf. wādd-a, ʕaʕizz-a, tawādd-a, ?inʕadd-a, ?iʕtazz-a, ?istaridd-a, etc.)

8. Optional (Precedes 29 and 64)

$[^V \text{Ip,sg}] \quad \{c_1 a c_2 a(i) c_2\}; \quad i+, \text{exp}, I+\emptyset$

(Thus ?i-ʕziz, ?i-mlal, etc.)

9. Optional (Precedes 11, 25 and 66)

$[^V_{Ip,d(f)}]$ VI $\{c_1-c_2-c_2\}$; exp, I+a

(Thus tawādad-ā, talājaj-ā, etc.)

10. Optional (Precedes 67)

$[^V_{ep,d(f)}]$ VI $\{c_1-c_2-c_2\}$; exp, I+ānni

(Thus tawādad-ānni, talājaj-ānni, etc.)

11. Optional (Precedes 66)

$[^V_{Ip,d(f)}]$ $\{c_1ac_2a(i)c_2\}$; ?i+, exp, I+ā

(Thus ?i-ʔziz-ā, ?i-mlal-ā, etc.)

12. (Precedes 18, 26, 37, 52 and 68)

$[^V_{Ip,p1,f}]$ IX, XI, XVII; exp, $_{\perp}i$, I+na

(Thus ?ihmarir-na, ?ihmārir-na, ?iqšaʔrir-na, etc.)

13. (Precedes 19, 27, 38 and 69)

$[^V_{ep,p1,f}]$ IX, XI, XVII; exp, $_{\perp}i$, T+nānni

(Thus ?ihmarir-nānni, ?ihmārir-nānni, ?iqšaʔrir-nānni, etc.)

14. (Precedes 18, 26 and 68)

$[^V_{Ip,p1,f}]$ III, VII, VIII $\{c_1-c_2-c_2\}$; exp, $_{\perp}i$, I+na

(Thus wādid-na, ?inʔadid-na, ?iʔtaziz-na, etc.)

15. (Precedes 19, 27 and 69)

$[^V_{ep,pl,f}]$ III,VII,VIII $\{c_1-c_2-c_2\}$; exp, \perp i,I+nānni

(Thus wādīd-nānni, ?inʔadīd-nānni, ?iʔtaziz-nānni, etc.)

16. (Precedes 18, 26 and 68)

$[^V_{Ip,pl,f}]$ IV,VI,X $\{c_1-c_2-c_2\}$; exp,I+na

(Thus ?aʔziz-na, tawādād-na, ?istardīd-na, etc.)

17. (Precedes 19, 27 and 69)

$[^V_{ep,pl,f}]$ IV,VI,X $\{c_1-c_2-c_2\}$; exp,I+nānni

(Thus ?aʔdīd-nānni, tawādād-nānni, ?istardīd-nānni, etc.)

18. (Precedes 68)

$[^V_{Ip,pl,f}]$ $\{c_1ac_2a(i)c_2\}$; ?i+,exp,I+na

(Thus ?iʔziz-na, ?imlāl-na, etc.)

19. (Precedes 69)

$[^V_{ep,pl,f}]$ $\{c_1ac_2a(i)c_2\}$; ?i+,exp,I+nānni

(Thus ?imlāl-nānni, ?ifrīr-nānni, etc.)

20. Optional (Precedes 22, 28 and 70)

$[^V_{Ip,pl}]$ VI $\{c_1-c_2-c_2\}$; exp,I+ū

(Thus tawādād-ū, talājaj-ū, etc.)

21. Optional (Precedes 71)

$[^V_{ep,pl}]$ VI $\{c_1-c_2-c_2\}$; exp, I+unna(un)

(Thus tawadād-unna, talājaj-un, etc.)

22. Optional (Precedes 70)

$[^V_{Ip,pl}]$ $\{c_1ac_2a(i)c_2\}$; ?i+, exp, I+ū

(Thus ?iʕziz-ū, ?imlāl-ū, etc.)

23. Optional (Precedes 62)

$[^V_{Ip,sg,f}]$ $\{c_1ac_2uc_2\}$; ?u+, exp, I+ū

(Thus ?u-rdud-ū, ?umdud-ū, etc.)

24. Optional (Precedes 29 and 64)

$[^V_{Ip,sg}]$ $\{c_1ac_2uc_2\}$; ?u+, exp, I+∅

(Thus ?u-rdud, ?u-mdud, etc.)

25. Optional (Precedes 66)

$[^V_{Ip,d(f)}]$ $\{c_1ac_2uc_2\}$; ?u+, exp, I+ā

(Thus ?u-rdud-ā, ?u-mdud-ā, etc.)

26. (Precedes 68)

$[^V_{Ip,pl,f}]$ $\{c_1ac_2uc_2\}$; ?u+, exp, I+na

(Thus ?u-rdud-na, ?u-mdud-na, etc.)

27. (Precedes 69)

$[^V_{ep,pl,f}] \quad \{c_1ac_2uc_2\}; \quad \lambda u+,exp,I+n\bar{a}nni$

(Thus λu -mdud- $n\bar{a}nni$, λu -rdud- $n\bar{a}nni$, etc.)

28. Optional (Precedes 70)

$[^V_{Ip,pl}] \quad \{c_1ac_2uc_2\}; \quad \lambda u+,exp,I+\bar{u}$

(Thus λu -rdud- \bar{u} , λu -mdud- \bar{u} , etc.)

29. (Precedes 64)

$[^V_{Ip,sg}] \quad \{c_1-c_2-c_2\}; \quad I+a$

(Thus rudd-a, mudd-a, firr-a, mall-a, etc.)

30. (Precedes 32 and 64)

$[^V_{Ip,sg}] \quad VII,VIII \{c_1-w_2(y)-c_3\}; \quad cur \bar{a},I+\emptyset$

(Cf. $\lambda ibta\hat{\imath}$, $\lambda inqad$, etc.)

31. (Precedes 32 and 64)

$[^V_{Ip,sg}] \quad IV,X \{c_1-w_2(y)-c_3\}; \quad cur \bar{t},I+\emptyset$

(Cf. $\lambda a\dot{g}i\theta$, $\lambda istaqim$, etc.)

32. (Precedes 64)

$[^V_{Ip,sg}] \quad \{c_1-w_2(y)-c_3\}; \quad cur v,I+\emptyset$

(Cf. qum, $\mathfrak{t}ul$, $bi\hat{\imath}$, nam, χaf , etc.)

33. (Precedes 37 and 68)

$[^V_{Ip,pl,f}]$ VII,VIII $\{c_1-w_2(y)-c_3\}$; cur \bar{a} , I+na

(Cf. $\text{?ibta}\bar{f}$ -na, ?inqad -na, etc.)

34. (Precedes 38 and 69)

$[^V_{ep,pl,f}]$ VII,VIII $\{c_1-w_2(y)-c_3\}$; cur \bar{a} , I+nānni

(Cf. ?inqad-nānni , $\text{?ibta}\bar{f}$ -nānni, etc.)

35. (Precedes 37 and 68)

$[^V_{Ip,pl,f}]$ IV,X $\{c_1-w_2(y)-c_3\}$; cur \bar{t} , I+na

(Cf. $\text{?a}\dot{\text{g}}\text{i}\theta$ -na, ?istaqim -na, etc.)

36. (Precedes 38 and 69)

$[^V_{ep,pl,f}]$ IV,X $\{c_1-w_2(y)-c_3\}$; cur \bar{t} , I+nānni

(Cf. $\text{?a}\dot{\text{g}}\text{i}\theta$ -nānni, ?istaqim-nānni , etc.)

37. (Precedes 68)

$[^V_{Ip,pl,f}]$ $\{c_1-w_2(y)-c_3\}$; cur v, I+na

(Thus qum-na, ?ul -na, bi \bar{f} -na, nam-na, χ af-na, etc.)

38. (Precedes 69)

$[^V_{ep,pl,f}]$ $\{c_1-w_2(y)-c_3\}$; cur v, I+nānni

(Thus qum-nānni, bi \bar{f} -nānni, χ af-nānni, nam-nānni, etc.)

39. (Precedes 42, 44, 46 and 62)

$[^V\text{Ip,sg,f}]$ V,VI $\{c_1-c_2-w_3(y)\}$; I+ \emptyset

(Cf. tamannay, tawānay, tawallay, tahāday, etc.)

40. (Precedes 42, 44, 46 and 62)

$[^V\text{Ip,sg,f}]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3, I+\bar{t}$

(Cf. rajj- \bar{t} , wāl- \bar{t} , ?adn- \bar{t} , ?ibtag- \bar{t} , ?inθan- \bar{t} , ?istad- \bar{t} ,
?iṣrawr- \bar{t} , ?ijlaww- \bar{t} , etc.)

41. (Precedes 43, 45 and 63)

$[^V\text{ep,sg,f}]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3, I+inna(in)$

(Cf. rajj-inna, wāl-in, ?irm-inna, ?ibtag-inna, ?inθan-in, ?istad-inna,
?iṣrawr-in, ?ijlaww-inna, etc.)

42. (Precedes 46 and 62)

$[^V\text{Ip,sg,f}]$ $\{c_1a(i)c_2ay_3\}$; I+ \emptyset

(Thus ?isṣay, ?ibqay, etc.)

43. (Precedes 63)

$[^V\text{ep,sg,f}]$ $\{c_1a(i)c_2iy_3\}$; $-v_2'c_3, I+inna(in)$

(Cf. ?irm-inna, ?iqḍ-in, l-inna, etc.)

44. (Precedes 46 and 62)

$[^V\text{Ip,sg,f}]$ $\{c_1a(u)c_2uw_3\}$; $\pm\eta u: ?i, -v_2'c_3, I+\bar{t}$

(Thus ?igz- \bar{t} , ?isr- \bar{t} , etc.)

45. (Precedes 63)

$[^V_{ep,sg,f}] \quad \{c_1 a(u) c_2 u w_3\}; \quad + \text{?u: ?i, -v}_2 'c_3, I + inna(in)$

(Thus ?igz-inna, ?isr-in, etc.)

46. (Precedes 62)

$[^V_{Ip,sg,f}] \quad \{c_1 - c_2 - w_3(y)\}; \quad -v_2 'c_3, I + \bar{t}$

(Thus ?irm- \bar{t} , ?inw- \bar{t} , r- \bar{t} , q- \bar{t} , etc.)

47. (Precedes 48-50 and 64)

$[^V_{Ip,sg}] \quad II-VIII, X, XII, XIII \{c_1 - c_2 - w_3(y)\}; \quad -c_3, I + \emptyset$

(Cf. rajji, wāli, ?irmi, tamanna, tawāna, ?ibtagi, ?inθani, ?istad f, ?iṣrawri, ?ijlawwi, etc.)

48. (Precedes 50 and 64)

$[^V_{Ip,sg}] \quad \{ra \text{ ?ay}\}; \quad +c_3 : h, I + \emptyset$

(Thus rah)

49. (Precedes 50 and 64)

$[^V_{Ip,sg}] \quad \{w_1 - c_2 - y_3\}; \quad +c_3 : h, I + \emptyset$

(Thus fih, ṣih, qih, etc.)

50. (Precedes 64)

$[^V_{Ip,sg}] \quad \{c_1 - c_2 - w_3(y)\}; \quad -c_3, I + \emptyset$

(Thus ?uḡzu, ?irmi, ?isṣa, ?iχśa, ?irḍa, etc.)

51. (Precedes 52 and 68)

$[^V_{Ip,pl,f}]$ II-VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $\pm v_2'c_3:\bar{t},I+na$

(Cf. rajj \bar{t} -na, wāl \bar{t} -na, ʔadn \bar{t} -na, ʔibtag \bar{t} -na, ʔinθan \bar{t} -na, ʔistad \bar{t} -na, ʔiʃrawr \bar{t} -na, ʔijlaww \bar{t} -na, etc.)

52. (Precedes 68)

$[^V_{Ip,pl,f}]$ $\{c_1a(i)c_2iy_3\}$; $\pm v_2'c_3:\bar{t},I+na$

(Thus ʔirm \bar{t} -na, ʔiṭw \bar{t} -na, l \bar{t} -na, ʃ \bar{t} -na, f \bar{t} -na, etc.)

53. (Precedes 57, 59 and 70)

$[^V_{Ip,pl}]$ V,VI $\{c_1-c_2-w_3(y)\}$; $\pm c_3:w,I+\emptyset$

(Cf. tamannaw, tawānaw, tawallaw, tarāḍaw, etc.)

54. (Precedes 58, 60, 61 and 71)

$[^V_{ep,pl}]$ V,VI $\{c_1-c_2-w_3(y)\}$; $\pm c_3:w,I+unna(un)$

(Cf. tawallaw-unna, tawānaw-unna, tamannaw-un, tarāḍaw-un, etc.)

55. (Precedes 57, 59 and 70)

$[^V_{Ip,pl}]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3,I+\bar{u}$

(Cf. rajj- \bar{u} , wāl- \bar{u} , ʔadn- \bar{u} , ʔibtag- \bar{u} , ʔinθan- \bar{u} , ʔistad \bar{t} - \bar{u} , ʔiʃrawr- \bar{u} , ʔijlaww- \bar{u} , etc.)

56. (Precedes 58, 60, 61 and 71)

$[^V_{ep,pl}]$ II-IV,VII,VIII,X,XII,XIII $\{c_1-c_2-w_3(y)\}$; $-v_2'c_3,I+unna(un)$

(Cf. rajj-unna, wāl-un, ʔadn-unna, ʔibtag-un, ʔinθan-unna, ʔistad \bar{t} -un, ʔiʃrawr-unna, ʔijlaww-un, etc.)

57. (Precedes 59 and 70)

$[^V_{Ip,pl}] \quad \{c_1 a(i) c_2 ay_3\}; \quad \pm c_3 : w, I + \emptyset$

(Cf. ?isʕaw, ?irɖaw, etc.)

58. (Precedes 71)

$[^V_{ep,pl}] \quad \{c_1 a(i) c_2 ay_3\}; \quad \pm c_3 : w, I + unna(un)$

(Thus ?isʕaw-unna, ?ibqaw-un, etc.)

59. (Precedes 70)

$[^V_{Ip,pl}] \quad \{c_1 - c_2 - w_3(y)\}; \quad -v_2 'c_3, I + \bar{u}$

(Thus ʔuḡz- \bar{u} , ?irm- \bar{u} , ?iɬw- \bar{u} , r- \bar{u} , f- \bar{u} , etc.)

60. (Precedes 71)

$[^V_{ep,pl}] \quad \{c_1 a(i) c_2 iy_3\}; \quad -v_2 'c_3, I + unna(un)$

(Cf. ?irm-unna, ?iqɖ-un, l-unna, etc.)

61. (Precedes 71)

$[^V_{ep,pl}] \quad \{c_1 a(u) c_2 uw_3\}; \quad -v_2 'c_3, I + unna(un)$

(Cf. ʔuḡz-unna, ʔusr-un, etc.)

62. $[^V_{Ip,sg,f}] \quad I + \bar{t}$

(Cf. ʔuktub- \bar{t} , ?ifham- \bar{t} , ?ijlis- \bar{t} , mur- \bar{t} , ʕid- \bar{t} , etc.)

63. $[^V_{ep,sg,f}] \quad I + inna(in)$

(Cf. ʔuktub-inna, ?ifham-in, ?ijlis-inna, mur-inna, ʕid-in, etc.)

64. $[^V_{Ip,sg}]$ I+ \emptyset

(Cf. ?uktub , ?ifham , ?ijlis , mur , ?id , etc.)

65. $[^V_{ep,sg}]$ I+anna(an)

(Cf. ?uktub-anna , ?ifham-an , ?ijlis-anna , mur-an , ?id-anna , etc.)

66. $[^V_{Ip,d(f)}]$ I+ \bar{a}

(Cf. $\text{?uktub-}\bar{a}$, $\text{?ifham-}\bar{a}$, $\text{?ijlis-}\bar{a}$, $\text{mur-}\bar{a}$, $\text{?id-}\bar{a}$, etc.)

67. $[^V_{ep,d(f)}]$ I+ $\bar{a}nni$

(Cf. $\text{?uktub-}\bar{a}nni$, $\text{?ifham-}\bar{a}nni$, $\text{?ijlis-}\bar{a}nni$, $\text{mur-}\bar{a}nni$, $\text{?id-}\bar{a}nni$, etc.)

68. $[^V_{Ip,pl,f}]$ I+na

(Cf. ?uktub-na , ?ifham-na , ?ijlis-na , mur-na , ?id-na , etc.)

69. $[^V_{ep,pl,f}]$ I+n $\bar{a}nni$

(Cf. $\text{?uktub-n}\bar{a}nni$, $\text{?ifham-n}\bar{a}nni$, $\text{?ijlis-n}\bar{a}nni$, $\text{mur-n}\bar{a}nni$, $\text{?id-n}\bar{a}nni$, etc.)

70. $[^V_{Ip,pl}]$ I+ \bar{u}

(Cf. $\text{?uktub-}\bar{u}$, $\text{?ifham-}\bar{u}$, $\text{?ijlis-}\bar{u}$, $\text{mur-}\bar{u}$, $\text{?id-}\bar{u}$, etc.)

71. $[^V_{ep,pl}]$ I+unna(un)

(Cf. ?uktub-unna , ?ifham-un , ?ijlis-unna , mur-un , ?id-unna , etc.)

E X E M P L A R Y D E M O N S T R A T I O N O F T H E
D E R I V A T I O N A L S Y S T E M

(OPERATIVE EXAMPLES)

E X E M P L A R Y D E M O N S T R A T I O N O F T H E
D E R I V A T I O N A L S Y S T E M

(OPERATIVE EXAMPLES)

The following examples explain how this grammar works:
how the grammatical rules in the present work operate.

The assumption is that a given meaning is in someone's mind - and that he wants to express this meaning in an Arabic word. The first thing to be done is to analyze the word of that meaning into its grammatical constituents (to obtain its grammatical form^ω), i.e. analyze it into its categorical properties, then to look up the required lexeme in the appropriate lexicon, and finally to apply the appropriate Rule.

For expository convenience, let us think of the examples in terms of 'problems' and 'solutions' thus:

Problem (1)

The Arabic verbal form for the meaning (You 'plural' understood). The required word is thus: the perfective, active,

2nd person, plural form of the Arabic verb for 'understood',
which is fahim.

Solution:

Input:

FAHIM pf,a,2,pl

1. Verb

2. V

3. [^Vpf,a,2,pl] ,S+2

(Rule 53 in para. 6.2.2.1)

4. S+2

5. Derivation not complete

6. S¹

7. S¹ [same properties]

→ 3. [S¹] ,L

(Rule 12 in 6.2.1.1)

→ 4. No operations

→ 5. Derivation not complete

→ 6. L

→ 7. L [same properties]

→ 3. [L] Dis Mor, R

(Rule 13 in 6.2.1.1)

→ 4. Dis Mor,R

→ 5. Derivation complete

→ Dis Mor → Dis Mor + 2

8. f-h-m

9. f-h-m → fahim + tum

Output:

fahimtum

Problem (2)

The Arabic verbal form for the meaning (you 'dual' are to be requested to come). The required word is thus: the imperfective,

passive, 2nd person, dual of the Arabic verb for 'request'.

Solution:

The verb for 'request or invite' is daʕaw, and according to chapter V the form that expresses 'request' is form X.

Input:

DAʕAW_{If,p,2,d} (form X)

1. Verb
2. V
3. [^VIf,p,2,d] X {c₁-c₂-w₃}; T'+2
(Rule 25 in 6.2.2.2)
4. T'+2
5. Derivation not complete
6. T'
7. T' [same properties]
- 3. [T'] _{a:u,v₂:a,T}
(Rule 22 in 6.2.1.6)
- 4. _{a:u,v₂:a,T}
- 5. Derivation not complete
- 6. T
- 7. T [same properties]
- 3. [T] _{?i:a,I}
(Rule 24 in 6.2.1.5)
- 4. _{?i:a,I}
- 5. Derivation not complete
- 6. I
- 7. I [same properties]
- 3. [I] _{?i+,S³}
(Rule 21 in 6.2.1.4)
- 4. _{?i+,S³}
- 5. Derivation not complete

\longrightarrow 6. S^3
 \longrightarrow 7. S^3 [same properties]
 \longrightarrow 3. $[S^3]$ $-\exists u, \exists v_2:a, S^2$
(Rule 29 in 6.2.1.3)
 \longrightarrow 4. $-\exists u, \exists v_2:a, S^2$
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. S^2
 \longrightarrow 7. S^2 [same properties]
 \longrightarrow 3. $[S^2]$ $X;$ $\exists v_1' \exists v_2:u, v_3:i, S^1$
(Rule 23 in 6.2.1.2)
 \longrightarrow 4. $\exists v_1' \exists v_2:u, v_3:i, S^1$
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. S^1
 \longrightarrow 7. S^1 [same properties]
 \longrightarrow 3. $[S^1]$ $X \{c_1-c_2-w_3\};$ $\exists c_3:y, L$
 \longrightarrow 4. $\exists c_3:y, L$
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. L
 \longrightarrow 7. L [same properties]
 \longrightarrow 3. $[L]$ $\text{Dis Mor}, R$
 \longrightarrow 4. $\text{Dis Mor}, R$
 \longrightarrow 5. Derivation complete
 \longrightarrow $\text{Dis Mor} \rightarrow \exists c_3:y \rightarrow \exists v_1' \exists v_2:u, v_3:i \rightarrow -\exists u, \exists v_2:a$
 $\rightarrow \exists i+ \rightarrow \exists i:a \rightarrow \exists a:u, v_2:a \rightarrow T'+Z$
8. $d-\exists-w$
9. $\exists ista--a- \rightarrow \exists istad\exists aw \rightarrow \exists istad\exists ay \rightarrow \exists ustud\exists iy$
 $\rightarrow stad\exists iy \rightarrow \exists istad\exists iy \rightarrow astad\exists iy \rightarrow ustad\exists ay$
 $\rightarrow ustad\exists ay+\bar{a}ni \rightarrow t+ustad\exists ay+\bar{a}ni$
output: tustad\exists ay\bar{a}ni

Problem (3)

The Arabic verbal form for the meaning (they 'fem' sell - expressed emphatically). The required word is thus: the Imperfective, 3rd person, plural, fem. of the Arabic verb for 'sell' - which is bayaʕ- expressed emphatically (energetic).

Solution:

Input:

BAYAʕ_{If,3,pl,f}

1. Verb
2. V
3. [^VIf,3,pl,f] {c₁-w₂(y)-c₃}; cur v₂,T+nānni
(Rule 108 in 6.2.2.3)
4. Cur v₂,T+nānni
5. Derivation not complete
6. T
7. T [same properties]
- 3. [T] {c₁-w₂(y)-c₃}; a+,I
(Rule 19 in 6.2.1.5)
- 4. a+,I
- 5. Derivation not complete
- 6. I
- 7. I [same properties]
- 3. [I] {c₁-w₂(y)-c₃}; S³
(Rule 15 in 6.2.1.4)
- 4. No operations
- 5. Derivation not complete
- 6. S³
- 7. S³ [same properties]
- 3. [S³] {c₁-y₂-c₃}; ,S²
(Rule 19 in 6.2.1.3)

\longrightarrow 4. No operations
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. S^2
 \longrightarrow 7. S^2 [same properties]
 \longrightarrow 3. $[S^2] \quad \{c_1 - w_2(y) - c_3\}; \quad +\bar{a}:\bar{t}, S^1$
(Rule 17 in 6.2.1.2)
 \longrightarrow 4. $+\bar{a}:\bar{t}, S^1$
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. S^1
 \longrightarrow 7. S^1 [same properties]
 \longrightarrow 3. $[S^1] \quad \{c_1 - w_2(y) - c_3\}; \quad +v_1'{}_2'c_2:\bar{a}, L$
(Rule 5 in 6.2.1.1)
 \longrightarrow 4. $+v_1'{}_2'c_2:\bar{a}, L$
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. L
 \longrightarrow 7. L [same properties]
 \longrightarrow 3. $[L] \quad \text{Dis Mor}, R$
 \longrightarrow 4. $\text{Dis Mor}, R$
 \longrightarrow 5. Derivation complete
 \longrightarrow Dis Mor $\rightarrow +v_1'{}_2'c_2:\bar{a} \rightarrow +\bar{a}:\bar{t} \rightarrow a+ \rightarrow \text{cur } v_2, + \text{nānni}$
8. $b-y-\text{ŋ}$
9. $b-y-\text{ŋ} \rightarrow \text{bayaŋ} \rightarrow b\bar{a}\text{ŋ} \rightarrow b\bar{t}\text{ŋ} \rightarrow ab\bar{t}\text{ŋ} \rightarrow ab\bar{t}\text{ŋ} + \text{nānni}$
 $\rightarrow y-abi\text{ŋ} + \text{nānni}$
output: $yabi\text{ŋnānni}$

The Arabic verbal form for the meaning (you 'plural' befriend each other - expressed emphatically). The required word is thus: the Imperative, 2nd person, plural, of the Arabic verb for 'befriend' - which wāḍad - expressed emphatically (energicus).

Solution:

According to chapter V, the form that expresses mutuality or reciprocity is the form VI.

Input:

WADAD_{ep,2,pl}

1. Verb
2. V
3. [^Verb,2,pl] VI {c₁-c₂-c₂}; exp,I+unna
(Rule 21 in 6.2.2.4)
4. exp,I+unna
5. Derivation not complete
6. I
7. I [same properties]
- > 3. [I] {c₁-c₂-c₂}; S³
(Rule 4 in 6.2.1.4)
- > 4. No operations
- > 5. Derivation not complete
- > 6. S³
- > 7. S³ [same properties]
- > 3. [S³] VI {c₁-c₂-c₂}; +v₁:a,v₂:ā,con,S²
(Rule 3 in 6.2.1.3)
- > 4. +v₁:a,v₂:ā,con,S²
- > 5. Derivation not complete
- > 6. S²
- > 7. S² [same properties]
- > 3. [S²] VI {c₁-c₂-c₂}; con,+v₁:u,v₂:ū,S¹
(Rule 9 in 6.2.1.2)
- > 4. Con,+v₁:u,v₂:ū,S¹
- > 5. Derivation not complete
- > 6. S¹
- > 7. S¹ [same properties]

\longrightarrow 3. $[S^1]$ VI $\{c_1 - c_2 - c_2\}$; Con, L
(Rule 10 in 6.2.1.1)
 \longrightarrow 4. Con, L
 \longrightarrow 5. Derivation not complete
 \longrightarrow 6. L
 \longrightarrow 7. L [same properties]
 \longrightarrow 3. [L] Dis Mor, R
 \longrightarrow 4. Dis Mor, R
 \longrightarrow 5. Derivation complete
 \longrightarrow Dis Mor \rightarrow Con \rightarrow $\pm v_1 : u, v_2 : \bar{u} \rightarrow \pm v_1 : a, v_2 : \bar{a}$
 \rightarrow exp, +unna
8. w-d-d
9. w-d-d \rightarrow wadad \rightarrow ta+wādad (form VI) \rightarrow ta+wādd \rightarrow
tu+wūdd \rightarrow ta+wādd \rightarrow ta+wādad \rightarrow ta+wādad+unna
output: tawādadunna

S U M M A R Y A N D C O N C L U S I O N S

S U M M A R Y A N D C O N C L U S I O N S

The summary and conclusions are here organised in accordance with the numbering of chapters and sections, in order to provide ease of reference if needed.

1. The Introductory Chapter presents a discussion of the main issues that relate to the present work in general. The development of vernacular Arabic into the standard CA, the identification of the concept of CA on this basis, sources and techniques that account for the reliability of the traditional Arabic grammar, and the early foreign influence on this grammar, are all discussed in terms of their logical relations and with respect to the concept of language-universals which is shown to be a sufficient justification for approaching the CA grammar in a universal ('restricted Universal' in our case) frame of reference.

2. The chapter on 'Phonemic Investigation' presents a discussion of the problematic questions regarding the CA phonemes, and leads to specific conclusions in this respect.

2.1 The first section is concerned with the Arabic consonantal system.

(a) The only reliable witness for assessing the nature

(quality and quantity) of the CA phonemes is the written form of Arabic.

(b) The question of the traditional terms 'majhūr' and 'mahmūs' is thoroughly discussed in comparison with the modern terms 'voice/voiceless' (or fortis/lenis). The question is first settled in general, and then with particular consideration of the phonemes /ʔ,q,t/. In the end the discussion leads to an independent view of the question.

(c) The 'emphatic' or 'velarized' phonemes are discussed in detail, with consideration of both the manner of their production and their positional occurrence; as well as to whether they should in any way be treated as suprasegmental features. This is carried out in a comparison between rival views, both among the early Arab grammarians and contemporary modern linguists, and also with respect to some other Semitic languages. The discussion leads to a more reliable description of the characteristics of the 'emphatic' sounds, as independent entities that should not be regarded as lexically in free alteration with their plain versions (i.e. the non-velarized counterparts).

(d) Special attention is given to the emphatics /ḷ/ and /ḍ/. The emphatic /ḷ/ is proved to be an independent phoneme that should not be considered as a 'stylistic variant' of the ordinary /l/. The rarity of its usage is met with the consistency of its usage by all speakers where it is usually used, e.g. /alḷah/. As for /ḍ/ the conclusion was that 'the CA 'ḍād' was in fact: 'the lateral spirant /ð̣/̣', particularly in the dialect of Qurayš. But other dialectal varieties, such as the velarized stop /ḍ/ and the non-lateral /ð̣/̣,

have simultaneously existed. The only question is whether these dialectal varieties were in the classical period admissible as part of the seven dialects or accents recognised in the Qurʾānic recitation.

(e) The 'liquids' /l, r, n, m, f, b/ are considered in terms of their significant role for a possible phonemic classification according to their positional occurrences in the various verbal patterns.

(f) An attempt is made to determine the pronunciation of the Arabic sibilants /s/ and /ṣ/, in a comparison between their early and their contemporary pronunciations. A similar discussion of the stop /j/ resulted in the conclusion that 'the consonant 'jīm' of CA was a voiced palatal stop /j/, which is still retained in Sudanese Arabic and among some Arab tribes elsewhere, as well as in the verbal transmission of the Qurʾānic recitation'.

(g) The distinction between the uvular fricatives /x, ġ, ḥ, ʕ/ is made clear, with the approximation of their articulatory positions being pointed out as the cause of their interchangeability in some of the CA word formations.

(h) The question of /ḥurūf furūʕ/ 'secondary consonants' is discussed in general, with a proposal as to how we can possibly benefit from their early description in a lexical investigation.

2.2 The second section of this chapter is concerned with the vowel system of CA.

(a) Apart from a very few remarks made by Sībawayhi and others, which may have some weight, the information regarding the description of vowels consists of only casually scattered references in the works of early Arab grammarians.

(b) Being led to regard the consonants as the lasting elements, the scholarly Arabic attention gave only a minor role to the vowels so far as the script is concerned. Vowels were treated as accidental qualities, not as part of the body of the written word.

(c) The omission of vowels in the script is interpreted historically as a result of the fact that Arabic - like the rest of Semitic languages which treat vowels as only a means of semantical modification - has received this practice (through Aramaic or rather Nabataean) from Phoenician to which it was transmitted from the ancient Egyptian pictographic system of writing. But eventually Arabic had to introduce (in the ninth century AD) some vowel symbols to meet the difficulties that have emerged later.

(d) The basic six Arabic vowels (3 short + 3 long) are said to be corresponding almost exactly to what is believed to be the Proto-Semitic vowel system. In this respect, the fact that Arab grammarians used to postulate short vowels before the long vowels in word forms is interpreted as a mistaken assumption attributable to the late script requirement - for elegance, perhaps - of covering all

the letters with vowel signs.

(e) A comparison between the Arabic vowels and their corresponding cardinals reveals the fact that the Arabic short vowels /i, u/ are almost the same as their equivalent cardinals, but the fatha /a/ is a retracted variety of the cardinal [a] (i.e. the cardinal [ae], changes into the cardinal [a] in certain phonological environments. As for the Arabic long vowels /ā, ī, ū/, it is difficult to say that they are twice the duration as their short version.

(f) The question of certain dialectal vowels that existed during the early era of CA is carefully discussed to result in confirmation or at least tending to confirm the existence of what could be equivalent to the cardinal vowels: [o] (prolonged into [ō]), [ɪ] (prolonged into [ī]), [ʊ] (prolonged into [ū]), [e], its prolonged version [ē], and [ɛ]. This is assessed in terms of Arabic dialects and with comparison to some other Semitic languages.

(g) Although diphthongs were not recognised as such by the early Arab grammarians, the evaluation of the discrete arguments proves that their early presence in CA is undeniable, and some proposals are made as to how a lengthy fruitful investigation in this area could be pursued.

3 In order to disambiguate the traditional terms of Arabic grammar, as well as other disputed morphological concepts, Chapter III has to be devoted to the terminological distinctions that could

free the various concepts from the surrounding controversies.

3.1 This section is concerned with the two major terms in Arabic grammar and their modern equivalents.

(a) The terms 'Naḥw, Taṣrīf Vs Syntax, Morphology' are discussed thoroughly in terms of the contrasting views in modern linguistics and the traditional Arabic grammars. Definitions are sought for each term in relation to others.

(b) The comparative discussion ends with conclusive definitions of the terms Naḥw, taṣrīf and Iṣṭiqāq.

3.2 The basic morphological concepts are compared to their presumable equivalents in traditional Arabic grammar, in order to establish the specific correspondence reflected in their definitions.

(a) The various definitions of the 'morpheme' concept by modern linguists are assessed in comparison with the two inferrable senses of 'morpheme' as identified in some studies of Arabic grammar. This is followed by a brief discussion of the realisation of the morphemic units in morphs, and the validity of the 'zero-exponent' concept.

(b) The distinction between the two terms 'root' and 'base' is made clear, and compared to that between the Arabic 'māddah' and 'binyah' as the two corresponding terms. This is followed by a demonstration of the distinction between the stem and stem-formative in relation to the general sense of 'pattern'.

(c) The word, as a grammatical concept, required special attention in this chapter, although it has been considered later in Chapter IV as a basic element in the rule-system of WP. In this chapter (III) the 'word' is considered in general terms. The contrasting definitions are comparatively discussed. Should it be defined on phonological or grammatical basis, or should it be considered as an abstract unit? Is it a general concept, or should it be assigned different senses according to the usages of the individual languages? In the light of this discussion the sense of the 'word', in traditional Arabic grammar, as a 'qawl mufrad' is assessed and brought into harmony with contemporary definitions.

4 Chapter IV features the distinctive characteristics of the main models of morphological analysis, with special reference to the morphology of CA, as reflected in the two types of analytic techniques used in traditional Arabic grammar.

4.1 The three main models are carefully discussed in a comparison between their various features.

(a) The main characteristics of WP (Word and Paradigm model) are first presented and discussed in view of the criticism against the model in general, with Arabic taken as the source of exemplification. The consideration at this stage was of course given to WP in its traditional form.

(b) The term 'process' in the second model IP (Item and Process) is defined in terms of its usage by the different linguists. Then the model is generally discussed in relation to the other

models; and the question of 'historicity', as the main criticism against IP, is given attention.

(c) The latest model IA (Item and Arrangement) is assessed in relation to the other two models, and the main criticisms against IA, such as the non-segmentability of certain morphemes and the question of 'parasitic forms, are brought to attention compared to the way such problems are handled by other models.

(d) The discussions at this section result in the conclusion that WP, as opposed to IP and IA, is the most appropriate model of analysis for the constructional mechanism of CA. The reasons for this particular choice are made clearly explicit.

4.2 This section presents a general survey of the WP model as formulated by Professor Matthews. The two main sub-components of the system are presented in a reasonably simplified manner, with the original examples being replaced with Arabic ones whenever possible.

(a) The basic terms and relations used in the system are first explained in the form of a summary, to facilitate understanding the sections on the structure of the morphological rule-system.

(b) The four components of the derivational sub-division are first presented in a way demonstrating the function of each, then the form and interpretation of the individual rules is laid down, with an Arabic example for demonstration. This is followed by a presentation of the three different types of operations.

(c) The procedure of interpretation which determines the stages through which the application of a rule goes, as well as the order of the derivational rules, are both carefully presented, with the expository examples taken from CA.

(d) The distinctive features of the system are then listed according to the specifications of this section.

(e) Although the system applies properly to CA, a few symbols and arrangements of adaptation had to be introduced. These are presented in general terms with reference to the right places where they are sufficiently explained.

5 Chapter V is concerned with the Arabic verbal system. It represents a reconsideration of the traditionally determined features of the CA verb, recasting them whenever possible in terms of modern structural linguistics. It is meant to facilitate the making and understanding of the grammatical rules in Chapter VI.

5.1 In this section, the question of form and function interaction is considered in relation to the overlapping roles of morphology and syntax, in order to establish the fact that a formal approach does not necessarily exclude the functional and semantical consideration.

(a) In an outline of the verbal construct, the significance of the 'root' - as opposed to the stem and the paradigmatic formation - is given prominence with the contrasting views over the

minimal constituents of the Arabic verbal 'root' being considered.

(b) In order to overcome the difficulty of having to consult a pair instead of a single item for the various derivational forms, some solutions are presented under the term 'Base-Form'. These solutions are carefully evaluated, and one of them is chosen to be used in the present work. This is followed by an assessment of the question of 'empty morphs' in terms of the 'total accountability' in the Arabic verbal forms.

(c) In order to demonstrate the general structure of the Arabic verb, and to benefit the making and understanding of the grammatical rules in the present work, the verbal root-formation is studied in detail. In this respect, the CA verbal roots are classified according to (i) the number of their phonemic constituents, as well as to (ii) their types (weak, hamzated, etc.). Under the former classification (i.e. (i)), Wright's list of the triliteral forms (conjugations) is reconsidered in comparison to the list in the major Arabic sources. As a result Wright's list is extended to thirteen forms, grouped into four classes. The primary class (A) is given special attention because it represents the basic unaugmented forms to which all forms of other classes belong as augmented versions. Formal observations regarding the possible predictability of the aspectual formations in this class are first presented, followed by the relevant semantical connotations. Then forms of the rest of the classes are listed successively, with sufficient explanation to the augments and their semantical implications. This is followed by a similar presentation of the primary and augmented

forms of the quadriconsonantal verb. In the latter classification (i.e. (ii)), the verbal roots are sub-divided according to the quality of their phonemic constituents into two major types (strong and weak verbs) each of which has its own sub-divisions. Divisions of the first group (strong verbs) are featured in terms of their general morphophonemic behaviour. Then the second group (weak verbs) is similarly featured, with special attention given to the exceptionally striking dispute over the alteration process operating on the medially weak verbs, e.g. the formula (qawama~~q~~āma). In this connection, two of the contemporary views are discussed, and the arguments are evaluated from an independent different angle of view.

(d) The question of 'Transitivity' is considered in terms of its morphological roles, such as the transitivizing process of gemination which involves an internal alteration. The classification under this heading is related to the semantical classification of the root formations. The discussion ends with a list of the transitivizers and intransitivizers arranged in succession.

5.2 The morphosyntactic categories are in this section discussed in general terms, with relation to the Arabic verbal system. Then the exclusively verbal categories are studied in detail.

(a) 'Aspect' and 'Tense' are in particular given special attention and discussed in detail for their significant role in the verbal classification. Three elements appeared to be involved in the complexity of Aspect/Tense intersection. Each of these elements

(Aspect, Tense, Time) have to be carefully defined on its own and in comparison with the other two elements.

(b) Tense and Time are first brought up in a comparison between their philosophical senses as abstract entities and their grammatical senses as part of the verbal categories. Arguments on this question are assessed in view of the different attitudes in modern linguistics and traditional grammar. As a temporal specification, the 'point present' is given special consideration for its major role in the Time/Tense distinction. In this respect, the tripartite classification of the Arabic 'Tense' is assessed in comparison to its counterpart in the modern grammar of English, to end with a comparative list of the important forms of future expressions in English and Arabic.

(c) 'Aspect' is defined with a careful evaluation of the contrasting views. As a consequence it was possible to consider the terms 'perfect/imperfect' as used by some modern linguists, compared to the temporal classification in Arabic grammar and the Semitists' interpretation of these terms.

(d) To assess the role of 'Time' reference in Arabic grammar, the various compound constructions of /kāna/ 'auxiliary Be' had to be studied on their own and then in combination with the simple verb construction, in order to demonstrate how the durational location or temporal reference is in these constructions carried by one verb and the aspectual by another.

(e) As a result of the analytic discussions of the Aspect/Tense intersection, a postulation is posited to the effect that 'the Arabic verb is a twofold functional form, with the compound/non-compound constructions being the function-determiners'. This postulation is demonstrated diagrammatically and in minute details meant to establish the new theoretical approach to the question.

(f) The aforesaid postulation led to a terminological determination in respect of the simultaneous use of the aspectual and the temporal labels with the Arabic verb, and allowed for the adoption of the terms 'Perfective/Imperfective' in the present grammar, to denote 'past' and 'present' tense forms, in a double functional sense.

(g) The 'voice' category is considered in general terms, and with regard to the existence of a grammatical relationship between the active and passive forms. In this respect, the question of 'deponent verbs' in Arabic is treated in brief.

(h) Among Semitic languages, CA is said to be the one with the greatest number of moods. This statement is assessed in relation to some other Semitic languages. Questions such as the base-form for modality, status of the 'Imperative' between modality and Tense, etc. are here discussed and settled. The various modal affixes are illuminated in terms of the different morphological processes to which they are subjected.

(i) The 'Personal Pronouns' are studied in their free and bound forms. The 'free forms' are first considered for a possible

segmentation of their constituents, and the idea has to be put aside. The 'bound forms' are then classified into 'nominals' and 'verbals'. The 'verbals' are then distributed in a table for the set of all pronominal affixes, on which the notion of 'cumulation' is clearly projected.

(j) The degree of formative-ambiguities is considered with respect to the principle of 'total accountability' in the light of a total field structure of the Arabic 'imperfect strong verb' affixes.

(k) According to a given procedure of morphemic analysis, Trager and Rice classified the personal pronouns in terms of recurrent partials within a fixed frame of reference, consisting of all the substitutional pronouns at the various points. This text (frame of reference) is presented in its original form, with a critical discussion of its contents in terms of the variant viewpoints which are brought to the attention in a comparative manner.

6 Chapter VI represents the result of all the preceding discussions. It comprises the grammar of the CA verbal system cast in the formulated version of WP.

6.1 The first section presents the guiding notes which are meant to explain how this grammar works, and answer any possible question regarding the formation and arrangement of the grammatical rules, or the external ordering of the Rule-divisions.

(a) The Notes are here grouped under sub-titles according to the types of their relationships. Notes that are in common are listed

under the heading 'General Remarks'.

(b) The sub-titles are then divided into: Rule-order, Optional Rules, Rule Generalisation, Pronominal Affixes, Base-Form Utility, Weak Verb Rules, and Gemination Rules. Under each sub-title the relevant points that are expected to pose a question are listed and clearly defined.

6.2 This section is primarily divided into two major divisions: the Stem-Rules and the V-Rules.

(a) The introduction to this section explains why the Stem-Rules had to be divided into six types and identifies the role of each type.

(b) For each of the six groups of the Stem-Rules a brief introduction was needed to define the function of the particular stem, its relation to other stems, and the other matters that relate to Rule-organisation.

(c) The introduction to the V-Rules section explains why these rules had to be divided into four major sub-titles, instead of listing them in one list of consecutive rules.

(d) For each of the four sub-sections of V-Rules a brief introduction had to precede the list of rules, in order to identify what is exceptionally relevant to the particular section, such as the affixal handling, the cover symbols, and other matters of relevance.

Finally, it is hoped that this summary and conclusions have given sufficient explanation to the methods and procedures of treating the problem concerned, as well as to the findings of the present work. A number of significant points may have had to be denied the required projection in order to keep the summary within the limits of reason. Nonetheless, a reference is always made somewhere to such points. However, the main intention here is to reflect how the overall purpose of the present work has been fulfilled, i.e. how the grammar of the CA verbal system has been reconstructed in terms of the modern linguistic theory, so as to add a new insight to and further the advancement of Arabic grammar in its evolutionary course. Otherwise, new lines of thought are opened, a number of relevant areas requiring further investigation are pointed out, and the work is generally constructed with a general sense of appreciation of the requirement that all new grammars should meet the rigorous demands of modern structural linguistics. If the summary and conclusions have given prominence to such results, and these results have been of some benefit to specialists and the intellectuals of interest in linguistics in general and Arabic grammar in particular, then one's efforts are not in vain.

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ADDENDUM

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